

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptaul13dxm

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	APR 04	STN AnaVist, Version 1, to be discontinued
NEWS	3	APR 15	WPIDS, WPINDEX, and WPIX enhanced with new predefined hit display formats
NEWS	4	APR 28	EMBASE Controlled Term thesaurus enhanced
NEWS	5	APR 28	IMSRESEARCH reloaded with enhancements
NEWS	6	MAY 30	INPAFAMDB now available on STN for patent family searching
NEWS	7	MAY 30	DGENE, PCTGEN, and USGENE enhanced with new homology sequence search option
NEWS	8	JUN 06	EPFULL enhanced with 260,000 English abstracts
NEWS	9	JUN 06	KOREAPAT updated with 41,000 documents
NEWS	10	JUN 13	USPATFULL and USPAT2 updated with 11-character patent numbers for U.S. applications
NEWS	11	JUN 19	CAS REGISTRY includes selected substances from web-based collections
NEWS	12	JUN 25	CA/CAPplus and USPAT databases updated with IPC reclassification data
NEWS	13	JUN 30	AEROSPACE enhanced with more than 1 million U.S. patent records
NEWS	14	JUN 30	EMBASE, EMBAL, and LEMBASE updated with additional options to display authors and affiliated organizations
NEWS	15	JUN 30	STN on the Web enhanced with new STN AnaVist Assistant and BLAST plug-in
NEWS	16	JUN 30	STN AnaVist enhanced with database content from EPFULL
NEWS	17	JUL 28	CA/CAPplus patent coverage enhanced
NEWS	18	JUL 28	EPFULL enhanced with additional legal status information from the epline Register
NEWS	19	JUL 28	IFICDB, IFIPAT, and IFIUIDB reloaded with enhancements
NEWS	20	JUL 28	STN Viewer performance improved
NEWS	21	AUG 01	INPADOCDB and INPAFAMDB coverage enhanced
NEWS	22	AUG 13	CA/CAPplus enhanced with printed Chemical Abstracts page images from 1967-1998
NEWS	23	AUG 15	CAOLD to be discontinued on December 31, 2008
NEWS	24	AUG 15	CAPplus currency for Korean patents enhanced
NEWS	25	AUG 25	CA/CAPplus, CASREACT, and IFI and USPAT databases enhanced for more flexible patent number searching
NEWS	26	AUG 27	CAS definition of basic patents expanded to ensure comprehensive access to substance and sequence information

NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

NEWS HOURS STN Operating Hours Plus Help Desk Availability

NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 15:38:57 ON 03 SEP 2008

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.68	1.68

FILE 'CAPLUS' ENTERED AT 15:43:31 ON 03 SEP 2008

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 3 Sep 2008 VOL 149 ISS 10

FILE LAST UPDATED: 2 Sep 2008 (20080902/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/legal/infopolicy.html>

=> e us 20080061272/pn

E1	1	US20080061270/PN
E2	1	US20080061271/PN
E3	1 -->	US20080061272/PN
E4	1	US20080061273/PN
E5	1	US20080061274/PN
E6	1	US20080061282/PN
E7	1	US20080061283/PN
E8	1	US20080061284/PN
E9	1	US20080061285/PN
E10	3	US20080061286/PN
E11	1	US20080061287/PN
E12	1	US20080061288/PN

=> s e3;d all
L1 1 US20080061272/PN

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1073677 CAPLUS
DN 143:349418
ED Entered STN: 07 Oct 2005
TI Nonflammable composition useful as a solvent
IN Caron, Laurent; Lallier, Jean Pierre
PA Arkema, Fr.
SO Fr. Demande, 10 pp.
CODEN: FRXXBL
DT Patent
LA French
IC ICM C11D007-50
ICS C07C021-073
CC 48-11 (Unit Operations and Processes)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2868430	A1	20051007	FR 2004-3590	20040406
	FR 2868430	B1	20080801		
	WO 2005108542	A1	20051117	WO 2005-FR582	20050311
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1733018	A1	20061220	EP 2005-739522	20050311
	R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR			
	JP 2007531812	T	20071108	JP 2007-506795	20050311
	US 20080061272	A1	20080313	US 2006-593943	20061006 <--
PRAI	FR 2004-3590	A	20040406		
	WO 2005-FR582	W	20050311		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2868430	ICM	C11D007-50
	ICS	C07C021-073
	IPCI	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C07C0021-00 [I,C]; C07C0021-073 [I,A]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
	ECLA	C11D007/50A6; C08J009/14H2; M11D
WO 2005108542	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
	ECLA	C11D007/50A6; C08J009/14H2; M11D

EP 1733018 IPCI C11D0007-50 [I,A]; C23G0005-028 [I,A]; C23G0005-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]
 IPCR C11D0007-50 [I,C]; C11D0007-50 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C23G0005-00 [I,C]; C23G0005-028 [I,A]
 ECLA C11D007/50A6; C08J009/14H2
 JP 2007531812 IPCI C11D0007-30 [I,A]; C11D0007-22 [I,C*]; C11D0007-50 [I,A]; C23G0005-02 [I,A]; C23G0005-00 [I,C*]
 IPCR C11D0007-22 [I,C]; C11D0007-30 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-28 [N,A]; C11D0007-50 [I,C]; C11D0007-50 [I,A]; C23G0005-00 [I,C]; C23G0005-02 [I,A]; C23G0005-028 [I,A]
 FTERM 4H003/DA01; 4H003/DA05; 4H003/DA12; 4H003/DC03; 4H003/ED13; 4H003/ED26; 4H003/FA01; 4H003/FA45; 4K053/RA08; 4K053/RA31
 US 20080061272 IPCI C09K0003-00 [I,A]
 NCL 252/364.000; 252/182.120
 AB The invention relates to a mixture containing trans-1,2-dichloroethylene 80-99 (preferably 95-98) and 1,1,1,3,3-pentafluoropropane 1-20 weight% (preferably 2-5%). The solvent is suitable for cleaning, degreasing, drying of solid surfaces, flux removal from printed circuits, dry cleaning of textiles, cleaning of refrigeration systems, as blowing agents for manufacture of polyurethane foams, as heat transfer fluids, and as propellants for aerosols.
 ST dichloroethylene pentafluoropropane mixt solvent
 IT Solvents
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane mixture as)
 IT Blowing agents
 Heat transfer agents
 Propellants (sprays and foams)
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture as)
 IT Cleaning
 Degreasing
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for)
 IT Printed circuits
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for cleaning and defluxing of)
 IT Refrigerating apparatus
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for cleaning of)
 IT Dry cleaning
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for dry cleaning of textiles)
 IT 156-60-5, trans-1,2-Dichloroethylene 460-73-1, 1,1,1,3,3-Pentafluoropropane
 RL: TEM (Technical or engineered material use); USES (Uses)
 (in trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture)
 RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Du Pont; WO 0017301 A 2000 CAPLUS
 (2) Gorton, E; US 5851977 A 1998 CAPLUS
 (3) Honeywell Int Inc; WO 03078539 A 2003 CAPLUS

=> s 156-60-5 and 460-73-1

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...

Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L3 880 L2

REGISTRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L5 3172 L4

L6 28 L5 AND L3

=> e caron laurent/au

E1	1	CARON L M/AU
E2	4	CARON LAURENCE/AU
E3	31 -->	CARON LAURENT/AU
E4	14	CARON LAURENT G/AU
E5	1	CARON LAURENT S J/AU
E6	1	CARON LEIGH/AU
E7	1	CARON LEO P R/AU
E8	1	CARON LEROY A/AU
E9	11	CARON LESLIE/AU
E10	6	CARON LESLIE LU ANN M/AU
E11	1	CARON LESLIE LU ANN MARIE/AU
E12	2	CARON LIETTE/AU

=> s e3 or e4

	31	"CARON LAURENT"/AU
	14	"CARON LAURENT G"/AU
L7	45	"CARON LAURENT"/AU OR "CARON LAURENT G"/AU

=> s 16 and 17

L8 3 L6 AND L7

=> d 1-3 all

L8 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1073677 CAPLUS
DN 143:349418
ED Entered STN: 07 Oct 2005
TI Nonflammable composition useful as a solvent
IN Caron, Laurent; Lallier, Jean Pierre
PA Arkema, Fr.
SO Fr. Demande, 10 pp.
CODEN: FRXXBL
DT Patent
LA French

IC ICM C11D007-50
ICS C07C021-073
CC 48-11 (Unit Operations and Processes)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2868430	A1	20051007	FR 2004-3590	20040406
	FR 2868430	B1	20080801		
	WO 2005108542	A1	20051117	WO 2005-FR582	20050311
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1733018	A1	20061220	EP 2005-739522	20050311
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	JP 2007531812	T	20071108	JP 2007-506795	20050311
	US 20080061272	A1	20080313	US 2006-593943	20061006
PRAI	FR 2004-3590	A	20040406		
	WO 2005-FR582	W	20050311		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2868430	ICM	C11D007-50
	ICS	C07C021-073
	IPCI	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C07C0021-00 [I,C]; C07C0021-073 [I,A]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
WO 2005108542	ECLA	C11D007/50A6; C08J009/14H2; M11D
	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
EP 1733018	ECLA	C11D007/50A6; C08J009/14H2; M11D
	IPCI	C11D0007-50 [I,A]; C23G0005-028 [I,A]; C23G0005-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C23G0005-00 [I,C]; C23G0005-028 [I,A]
JP 2007531812	ECLA	C11D007/50A6; C08J009/14H2
	IPCI	C11D0007-30 [I,A]; C11D0007-22 [I,C*]; C11D0007-50 [I,A]; C23G0005-02 [I,A]; C23G0005-00 [I,C*]
	IPCR	C11D0007-22 [I,C]; C11D0007-30 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-28 [N,A]; C11D0007-50 [I,C]; C11D0007-50 [I,A]; C23G0005-00 [I,C]; C23G0005-02 [I,A]; C23G0005-028 [I,A]
	FTERM	4H003/DA01; 4H003/DA05; 4H003/DA12; 4H003/DC03; 4H003/ED13; 4H003/ED26; 4H003/FA01; 4H003/FA45; 4K053/RA08; 4K053/RA31

US 20080061272 IPCI C09K0003-00 [I,A]
NCL 252/364.000; 252/182.120

AB The invention relates to a mixture containing trans-1,2-dichloroethylene 80-99 (preferably 95-98) and 1,1,1,3,3-pentafluoropropane 1-20 weight% (preferably 2-5%). The solvent is suitable for cleaning, degreasing, drying of solid surfaces, flux removal from printed circuits, dry cleaning of textiles, cleaning of refrigeration systems, as blowing agents for manufacture of polyurethane foams, as heat transfer fluids, and as propellants for aerosols.

ST dichloroethylene pentafluoropropane mixt solvent

IT Solvents
(trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane mixture as)

IT Blowing agents
Heat transfer agents
Propellants (sprays and foams)
(trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture as)

IT Cleaning
Degreasing
(trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for)

IT Printed circuits
(trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for cleaning and defluxing of)

IT Refrigerating apparatus
(trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for cleaning of)

IT Dry cleaning
(trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for dry cleaning of textiles)

IT 156-60-5, trans-1,2-Dichloroethylene 460-73-1,
1,1,1,3,3-Pentafluoropropane
RL: TEM (Technical or engineered material use); USES (Uses)
(in trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Du Pont; WO 0017301 A 2000 CAPLUS
- (2) Gorton, E; US 5851977 A 1998 CAPLUS
- (3) Honeywell Int Inc; WO 03078539 A 2003 CAPLUS

L8 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:1073675 CAPLUS

DN 143:327475

ED Entered STN: 07 Oct 2005

TI Blowing agent fire-resistant composition and its use.

IN Caron, Laurent

PA Arkema, Fr.

SO Fr. Demande, 10 pp.
CODEN: FRXXBL

DT Patent

LA French

IC ICM C08J009-04
ICS C09K003-30; C11D007-50; C08G018-06; C08G101-00

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 23

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	FR 2868427	A1	20051007	FR 2004-3591	20040406
	FR 2868427	B1	20060908		
	WO 2005108478	A1	20051117	WO 2005-FR629	20050316

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
 SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG

EP 1732977 A1 20061220 EP 2005-739691 20050316
 EP 1732977 B1 20080618
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
 CN 1942513 A 20070404 CN 2005-80011914 20050316
 JP 2007531814 T 20071108 JP 2007-506797 20050316
 AT 398646 T 20080715 AT 2005-739691 20050316
 KR 2007015167 A 20070201 KR 2006-720644 20061002
 US 20080105848 A1 20080508 US 2006-593945 20061006
 PRAI FR 2004-3591 A 20040406
 WO 2005-FR629 W 20050316

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2868427	ICM	C08J009-04
	ICS	C09K003-30; C11D007-50; C08G018-06; C08G101-00
	IPCI	C08J0009-00 [I,C]; C08G0018-00 [I,C]; C09K0003-30 [I,C]; C11D0007-50 [I,C]; C08J0009-04 [I,A]; C08G0018-06 [I,A]; C08G0101-00 [N,A]; C09K0003-30 [I,A]; C11D0007-50 [I,A]
	IPCR	C09K0005-00 [I,C*]; C08J0009-14 [I,A]; C09K0005-04 [I,A]
WO 2005108478	ECLA	C09K003/30; C09K005/04B4B
	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
EP 1732977	ECLA	C08J009/14H2; C09K003/30; C09K005/04B4B
	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
CN 1942513	ECLA	C09K003/30; C09K005/04B4B; C08J009/14H2
	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
JP 2007531814	ECLA	C09K003/30; C09K005/04B4B
	IPCI	C08G0018-28 [I,A]; C08G0018-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C09K0005-04 [I,A]; C09K0005-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,A]
	IPCR	C08G0018-00 [I,C]; C08G0018-28 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-00 [I,C]; C09K0003-00 [I,A]; C09K0003-30 [I,C]; C09K0003-30 [I,A]; C09K0005-00 [I,C]; C09K0005-04 [I,A]
	FTERM	4F074/AA80; 4F074/AA81; 4F074/BA48; 4F074/BA53; 4J034/CA03; 4J034/CA04; 4J034/CA05; 4J034/CB03; 4J034/CB04; 4J034/CB05; 4J034/CC03; 4J034/DA01; 4J034/DB04; 4J034/DF01; 4J034/DG03; 4J034/DG23; 4J034/HA01; 4J034/HA07; 4J034/HA09; 4J034/HC12;

4J034/HC61; 4J034/HC64; 4J034/HC67; 4J034/HC71;
4J034/MA11; 4J034/NA02; 4J034/QC01

AT 398646 IPCI C08J0009-00 [I,C]; C08J0009-14 [I,A]
IPCR C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00
[I,C*]; C09K0005-04 [I,A]
ECLA C08J009/14H2; C09K003/30; C09K005/04B4B

KR 2007015167 IPCI C08K0005-02 [I,A]; C08K0005-00 [I,C*]; C09K0003-30
[I,A]; C09K0005-04 [I,A]; C09K0005-00 [I,C*]

US 20080105848 IPCI C09K0003-00 [I,A]
NCL 252/067.000

AB A blowing agent composition for fire-resistant polyurethane and
polyisocyanurate foams manufacture comprises 5 - 74 weight% of
1,1,3,3-pentafluorobutane (I), 24 - 93 weight% of trans-1,2-dichloroethylene
(II) and 2 - 46 weight% of 1,1,1,3,3-pentafluoropropane (III). A typical
composition consists of 100 weight parts of polyol Stepanpol PS2412 and 5
weight
parts of a blowing agent (consisting of 33 weight% I, 34 weight% II and 33
weight%
III).

ST blowing agent fire resistant polyurethane polyisocyanurate foam;
pentafluorobutane dichloroethylene pentafluoropropane blowing agent fire
resistant foam

IT Blowing agents
Fire-resistant materials
(blowing agent composition for fire-resistant polyurethane and
polyisocyanurate foams)

IT Plastic foams
Polyisocyanurates
Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(blowing agent composition for fire-resistant polyurethane and
polyisocyanurate foams)

IT Hydrocarbons, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(fluoro; blowing agent composition for fire-resistant polyurethane and
polyisocyanurate foams)

IT Polyesters, uses
RL: POF (Polymer in formulation); USES (Uses)
(hydroxy-terminated; blowing agent composition for fire-resistant
polyurethane and polyisocyanurate foams)

IT 156-60-5, trans-1,2-Dichloroethylene 406-58-6,
1,1,1,3,3-Pentafluorobutane 431-89-0, 1,1,1,2,3,3,3-Heptafluoropropane
460-73-1, 1,1,1,3,3-Pentafluoropropane
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(blowing agent composition for fire-resistant polyurethane and
polyisocyanurate foams)

IT 439592-40-2, Stepanpol PS 2412
RL: POF (Polymer in formulation); TEM (Technical or engineered material
use); USES (Uses)
(blowing agent composition for fire-resistant polyurethane and
polyisocyanurate foams)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Shankland, I; US 2003234380 A1 2003 CAPLUS
(2) Singh, R; WO 02099006 A 2002 CAPLUS

L8 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:4726 CAPLUS
DN 141:226487
ED Entered STN: 05 Jan 2004

TI Trans-1,2-dichloroethylene for improving fire performance of urethane foam
 AU Wu, Jinhuang; Bertelo, Christopher; Caron, Laurent
 CS ATOFINA Chemicals, Inc., King of Prussia, PA, 19406, USA
 SO Conference Proceedings - Polyurethanes Expo, Orlando, FL, United States,
 Oct. 1-3, 2003 (2003), 454-462 Publisher: Alliance for the Polyurethanes
 Industry, Arlington, Va.
 CODEN: 69EXJX
 DT Conference
 LA English
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 37
 AB In the United States, HCFC-141b was phased out of urethane foam
 applications on Jan. 1, 2003. Zero ozone depletion-potential (ODP)
 alternatives such as hydrofluorocarbons (HFCs) and hydrocarbons (normal
 pentane, iso-pentane and cyclopentane) were introduced to replace
 HCFC-141b. However, none of these alternatives can match the performance
 of HCFC-141b in terms of handling, economics, and overall final product
 performance. In particular, the fire performance of hydrocarbon-based
 foams cannot reach the performance previously achieved with HCFC-141b.
 Trans-1,2-dichloroethylene is a liquid at room temperature (b.p. 48°). It
 does not deplete the ozone layer, and it has very low global warming
 potential (GWP) because it has very short atmospheric lifetime. The authors
 have recently reported that when trans-1,2-dichloroethylene is used in urethane
 foams with hydrocarbons, it could improve the fire performance of the
 foams based on a small-scale fire test (Mobil 45). They report phys.
 properties such as dimensional stability and compressive strength of
 hydrocarbon/trans-1,2-dichloroethylene-based foams. They have also
 extended the studies of the use of trans-1,2-dichloroethylene and they
 report on the fire performance and phys. properties of HFC blown urethane
 foams incorporating trans-1,2-dichloroethylene.
 ST hydrocarbon trans dichloroethylene blown urethane foam flammability
 improved; hydrofluorocarbon trans dichloroethylene blown urethane foam
 flammability improved
 IT Polyurethanes, uses
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (cellular; nonozone depleting blowing agents with trans-1,2-
 dichloroethylene for improving fire performance of urethane foam)
 IT Blowing agents
 Compressive strength
 Fireproofing agents
 Flammability
 Thermal insulation foams
 (nonozone depleting blowing agents with trans-1,2-dichloroethylene for
 improving fire performance of urethane foam)
 IT Hydrocarbons, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (nonozone depleting blowing agents with trans-1,2-dichloroethylene for
 improving fire performance of urethane foam)
 IT Polymer degradation
 (thermal; nonozone depleting blowing agents with trans-1,2-
 dichloroethylene for improving fire performance of urethane foam)
 IT 156-60-5, trans-1,2-Dichloroethylene
 RL: MOA (Modifier or additive use); USES (Uses)
 (nonozone depleting blowing agents with trans-1,2-dichloroethylene for
 improving fire performance of urethane foam)
 IT 192648-01-4P, Mondur 489-STEPANPol PS 2352 copolymer 439592-42-4P,
 DESMODUR 44V70-STEPANPOL PS 2412 copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (nonozone depleting blowing agents with trans-1,2-dichloroethylene for

improving fire performance of urethane foam)
IT 78-78-4, Isopentane 109-66-0, n-Pentane, uses 287-92-3, Cyclopentane
406-58-6, HFC-365mfc 460-73-1, HFC-245fa 745816-72-2, Hydrosol
Pentane 15
RL: TEM (Technical or engineered material use); USES (Uses)
(nonozone depleting blowing agents with trans-1,2-dichloroethylene for
improving fire performance of urethane foam)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; Standard Test Method for Heat and Visible Smoke Release Rates for
Materials and Products Using an Oxygen Consumption Calorimeter ASTM E 1354
- (2) Berrier, R; Polyurethanes Expo '98 1998, P5 CAPLUS
- (3) Bob, J; The Earth Technologies Forum 1999, P273
- (4) Dournel, P; Polyurethanes Expo '2001 2001, P325 CAPLUS
- (5) Francesca, P; Environmental and thermal insulation requirements for
polyurethane rigid foams for the professional cold chain industry 2001
- (6) William, D; The Earth Technologies Forum 1998, P270
- (7) Wu, J; Polyurethanes Conference Proceeding 2003, P144

=> d his

(FILE 'HOME' ENTERED AT 15:38:57 ON 03 SEP 2008)

FILE 'CAPLUS' ENTERED AT 15:43:31 ON 03 SEP 2008

E US 20080061272/PN

L1

1 S E3

S 156-60-5/REG# AND 460-73-1/REG#

FILE 'REGISTRY' ENTERED AT 15:45:31 ON 03 SEP 2008

L2

1 S 460-73-1/RN

FILE 'CAPLUS' ENTERED AT 15:45:31 ON 03 SEP 2008

L3

880 S L2

FILE 'REGISTRY' ENTERED AT 15:45:32 ON 03 SEP 2008

L4

1 S 156-60-5/RN

FILE 'CAPLUS' ENTERED AT 15:45:32 ON 03 SEP 2008

L5

3172 S L4

L6

28 S L5 AND L3

E CARON LAURENT/AU

L7

45 S E3 OR E4

L8

3 S L6 AND L7

=> d 16 1-28 all

L6 ANSWER 1 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2008:973919 CAPLUS

ED Entered STN: 14 Aug 2008

TI Nonflammable cleaning compositions comprising fluorinated compounds for
solid surface and flushing refrigeration apparatus

IN Marhold, Michael; Rau, Helge; Boerner, Karsten; Meurer, Christoph

PA Solvay Fluor G.m.b.H., Germany

SO PCT Int. Appl., 23pp.

CODEN: PIXXD2

DT Patent

LA English

CC 46-6 (Surface Active Agents and Detergents)

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI WO 2008095881 A1 20080814 WO 2008-EP51307 20080204
 W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
 FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
 KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
 ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
 PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM,
 TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
 IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
 TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 PRAI EP 2007-101826 A 20070206
 EP 2007-101835 A 20070206

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2008095881	IPCI	C11D0007-50 [I,A]; B01D0012-00 [I,A]; C23G0005-028 [I,A]; C23G0005-00 [I,C*]; H01L0021-02 [I,A]
AB		The non-flammable compns. comprises fluorinated compds. selected from hydro fluoroalkanes, hydrofluoroalkenes, partially or perfluorinated aromatic compds., hydrofluoroethers or fluoroketones, 1,2-dichloroethylene, especially trans-1,2-dichloroethylene, and a stabilizer. These non-flammable compns. preferably containing 1,1,1,3,3-pentafluorobutane, can be used especially as solvents for cleaning and defluxing electronic components and for degreasing metals. The compns. further may comprise a propellant, e.g. 1,1,1,2-tetrafluoroethane. These compns. are especially suitable as flushing agent.
ST		pentafluorobutane tetrafluoroethane flushing agent refrigeration app
IT		Detergents (cleaning compns.; nonflammable cleaning compns. comprising fluorinated compds. for solid surface and flushing refrigeration apparatus)
IT		Alkanes Alkenes Ketones RL: NUU (Other use, unclassified); USES (Uses) (fluoro; nonflammable cleaning compns. comprising fluorinated compds. for solid surface and flushing refrigeration apparatus)
IT		Ethers RL: NUU (Other use, unclassified); USES (Uses) (fluoroalkyl; nonflammable cleaning compns. comprising fluorinated compds. for solid surface and flushing refrigeration apparatus)
IT		Degreasing agents Printed circuit boards Refrigerating apparatus (nonflammable cleaning compns. comprising fluorinated compds. for solid surface and flushing refrigeration apparatus)
IT		156-60-5, trans-1,2-Dichloroethylene 406-58-6, HFC 365mfc 460-73-1, HFC 245fa 811-97-2, HFC 134a 138495-42-8, HFC 43-10mee RL: NUU (Other use, unclassified); USES (Uses) (nonflammable cleaning compns. comprising fluorinated compds. for solid surface and flushing refrigeration apparatus)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Allied Signal Inc; WO 9935209 A 1999 CAPLUS
- (2) Du Pont; WO 0017301 A 2000 CAPLUS
- (3) Du Pont; WO 2005118754 A 2005 CAPLUS
- (4) Illinois Tool Works; EP 1403361 A 2004
- (5) Minnesota Mining & Mf G; WO 9837163 A 1998 CAPLUS
- (6) Nappa Mario J; US 20060266975 A1 2006

(7) Pham; WO 02099006 A 2002 CAPLUS
(8) Solvay; EP 0653484 A1 1995 CAPLUS

L6 ANSWER 2 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2008:743878 CAPLUS
DN 149:55272
ED Entered STN: 20 Jun 2008
TI Expanded and extruded biodegradable and reduced emission foams made with
methyl formate-based blowing agents
IN Handa, Y. Paul
PA USA
SO U.S. Pat. Appl. Publ., 16pp.
CODEN: USXXCO
DT Patent
LA English
INCL 052158000; 052179000
CC 38-3 (Plastics Fabrication and Uses)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 20080146686	A1	20080619	US 2007-955034	20071212
	WO 2008076755	A1	20080626	WO 2007-US87231	20071212
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRAI	US 2006-869932P	P	20061214		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
-----	-----	-----
US 20080146686	INCL	052158000; 052179000
	IPCI	C08J0009-228 [I,A]; C08J0009-00 [I,C*]
WO 2008076755	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]

AB Expanded and extruded biodegradable polymer foams are obtained using biodegradable polymers and environmentally benign non-VOC Me formate as a blowing agent. The blowing agent can be a blend further including at least one co-blowing agent, preferably an environmentally friendly species (e.g., non-VOC), which is either a phys. co-blowing agent (e.g. an inorg. agent, a hydrocarbon, a halogenated hydrocarbon, a hydrocarbon with polar, functional group(s), water or any combination thereof), or a chemical co-blowing agent, or combinations thereof. The blowing agent blend can include any combination of Me formate and one or more co-blowing agents. The polymer foam can include a biodegradable polymer or its blends with other biodegradable polymers or conventional (non-biodegradable) polymers. The Me formate-based blowing agent blends produce stable foams for various applications, including containers, packaging systems, as well as for insulation and protective cushioning. Processes for the preparation of such foams are also provided.

ST expanded extruded biodegradable foam methyl formate blowing agent

IT Alcohols, uses

RL: NUU (Other use, unclassified); USES (Uses)

(aliphatic, co-blowing agent; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Acrylic polymers, uses

Polyolefins

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(biodegradable polymer-blends; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Acetals

Amines, uses

Carbonates, uses

Esters, uses

Ethers, uses

Hydrocarbons, uses

Ketones, uses

RL: NUU (Other use, unclassified); USES (Uses)

(co-blowing agent; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Biodegradable materials

Blowing agents

(expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Polyesters, uses

Polyoxyalkylenes, uses

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Extruded plastics

Plastic foams

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses)

(halo, co-blowing agent; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Polyesters, uses

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(hydroxycarboxylic acid-based; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Polymer blends

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(non-biodegradable polymer- biodegradable polymer; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT Plastics, uses

RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(thermoplastics, non-biodegradable polymer, biodegradable polymer-blends; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT 74-84-0, Ethane, uses 74-98-6, Propane, uses 75-28-5, Isobutane

75-37-6, HFC-152a 78-78-4, Isopentane 106-97-8, n-Butane, uses

115-10-6, Dimethylether 124-38-9, Carbon dioxide, uses 156-60-5

, trans-1,2-Dichloroethylene 460-73-1, HFC-245fa 811-97-2,

HFC-134a

RL: NUU (Other use, unclassified); USES (Uses)

(co-blowing agent; expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT 107-31-3, Methyl formate
 RL: NUU (Other use, unclassified); USES (Uses)
 (expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

IT 9004-35-7D, Acetyl cellulose, reaction products with 9005-25-8, Starch, uses 9005-25-8D, Starch, derivs. 24980-41-4, Poly(caprolactone) 25248-42-4, Poly(caprolactone) 25322-68-3, Poly(ethylene glycol) 26009-03-0, Poly(glycolic acid) 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid) 26124-68-5, Poly(glycolic acid) 26780-50-7, Lactide-glycolide copolymer 60961-73-1, Ecoflex
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (expanded and extruded biodegradable and reduced emission foams made with Me formate-based blowing agents)

L6 ANSWER 3 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2007:994049 CAPLUS
 DN 147:302440
 ED Entered STN: 06 Sep 2007
 TI Reduced-VOC and non-VOC blowing agents for making expanded and extruded thermoplastic alkenyl aromatic polymer foams
 IN Handa, Y. Paul; Francis, Gary A.; Castner, Glenn C.; Zafar, Mohammad
 PA USA
 SO U.S. Pat. Appl. Publ., 27pp., Cont.-in-part of U.S. Ser. No. 367,652.
 CODEN: USXXCO
 DT Patent
 LA English
 INCL 521079000
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 20070208094	A1	20070906	US 2007-680170	20070228
	US 20060052464	A1	20060309	US 2004-934832	20040903
	US 7307105	B2	20071211		
	US 20060047009	A1	20060302	US 2004-16312	20041217
	US 7312253	B2	20071225		
	US 20060052465	A1	20060309	US 2005-122158	20050503
	US 20060052466	A1	20060309	US 2005-151814	20050613
	CA 2579337	A1	20060316	CA 2005-2579337	20050901
	EP 1802688	A1	20070704	EP 2005-793425	20050901
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	JP 2008512509	T	20080424	JP 2007-530314	20050901
	US 20060211782	A1	20060921	US 2006-367652	20060303
	MX 200702580	A	20070516	MX 2007-2580	20070302
PRAI	US 2004-934832	A2	20040903		
	US 2004-16312	A2	20041217		
	US 2005-122158	A2	20050503		
	US 2005-151814	A2	20050613		
	US 2006-367652	A2	20060303		
	WO 2005-US30983	W	20050901		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
-----	----	-----
US 20070208094	INCL	521079000
	IPCI	C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,C]; C08J0009-00 [I,A]
	NCL	521/079.000

	ECLA	C08J009/14D+L25/04; C08J009/12F+L25/04; C08J009/14P+L25/04
US 20060052464	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]; C08J0009-00 [I,A]; C08J0009-14 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]
	NCL	521/079.000; 521/098.000; 521/142.000; 521/097.000; 521/146.000
US 20060047009	IPCI	C08J0009-00 [I,A]; C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]
	NCL	521/079.000; 521/098.000; 521/142.000; 521/146.000
	ECLA	C08J009/14P+L25/04; C08J009/12F+L25/04
US 20060052465	IPCI	C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]
	NCL	521/079.000
US 20060052466	IPCI	C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]
	NCL	521/099.000
CA 2579337	IPCI	C08J0009-14 [I,A]; C08J0009-228 [I,A]; C08J0009-00 [I,C*]; C08L0025-06 [I,A]; C08L0025-00 [I,C*]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C08J0009-228 [I,A]; C08L0025-00 [I,C]; C08L0025-06 [I,A]
EP 1802688	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]
	ECLA	C08J009/14D+L25/04; C08J009/12F+L25/04; C08J009/14P+L25/04
JP 2008512509	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	FTERM	4F074/AA32; 4F074/AC32; 4F074/BA32; 4F074/BA33; 4F074/BA34; 4F074/BA35; 4F074/BA36; 4F074/BA37; 4F074/BA38; 4F074/BA39; 4F074/BA53; 4F074/BA67; 4F074/BA72; 4F074/BA73; 4F074/BA74; 4F074/BA75; 4F074/BA84; 4F074/CA22; 4F074/CA24; 4F074/CC03X; 4F074/CC04X; 4F074/CC04Y; 4F074/CC05Z; 4F074/DA02; 4F074/DA03; 4F074/DA12; 4F074/DA14; 4F074/DA23; 4F074/DA32; 4F074/DA33; 4F074/DA34
US 20060211782	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]
	IPCR	C08J0009-00 [I,C]; C08J0009-00 [I,A]; C08J0009-14 [I,A]
	NCL	521/079.000; 521/098.000; 521/142.000
MX 200702580	IPCI	C08J0009-00 [I,C]; C08J0009-14 [I,A]
AB	A blowing agent blend for making thermoplastic polymer foams includes Me formate. The blowing agent blend can further comprise ≥ 1 co-blowing agent. The co-blowing agent is either a phys. co-blowing agent (e.g. an inorg. agent, a hydrocarbon, a halogenated hydrocarbon, a hydrocarbon with polar, functional group(s), H ₂ O or any combination), or a chemical co-blowing agent, or combinations and the thermoplastic polymer foam can be an alkenyl aromatic polymer foam, e.g. a polystyrene foam. The Me formate-based blowing agent blends produce dimensionally stable foams that have improved resistance to flame spread. A process for the preparation of such foams is also provided.	
ST	blowing agent Me formate thermoplastic foam reduced VOC; phys coblowing agent carbon dioxide thermoplastic foam reduced VOC	
IT	Thermal insulation foams (board or sheet; low d. expanded and extruded alkenyl aromatic polymer foams prepared with Me formate blowing agent blend)	
IT	Extruded plastics RL: TEM (Technical or engineered material use); USES (Uses) (foam; low d. expanded and extruded alkenyl aromatic polymer foams prepared with Me formate blowing agent blend)	
IT	Blowing agents (low d. expanded and extruded alkenyl aromatic polymer foams prepared with Me formate blowing agent blend)	
IT	Plastic foams RL: TEM (Technical or engineered material use); USES (Uses) (thermoplastic; low d. expanded and extruded alkenyl aromatic polymer	

foams prepared with Me formate blowing agent blend)
 IT 75-68-3, HCFC 142b 115-10-6, Dimethyl ether 156-60-5,
 trans-1,2-Dichloroethylene 460-73-1, HFC 245fa 811-97-2, HFC
 134a 7732-18-5, Water, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (co-blowing agent; low d. expanded and extruded alkenyl aromatic polymer
 foams prepared with Me formate blowing agent blend)
 IT 74-84-0, Ethane, uses 74-98-6, Propane, uses 75-28-5, Isobutane
 75-37-6, HFC 152a 78-78-4, Isopentane 106-97-8, Butane, uses
 124-38-9, Carbon dioxide, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (co-blowing agent; low d. expanded and extruded alkenyl aromatic polymer
 foams prepared with Me formate blowing agent blend)
 IT 107-31-3, Methyl formate
 RL: NUU (Other use, unclassified); USES (Uses)
 (low d. expanded and extruded alkenyl aromatic polymer foams prepared with
 Me formate blowing agent blend)
 IT 9003-53-6, Polystyrene
 RL: POF (Polymer in formulation); USES (Uses)
 (low d. expanded and extruded alkenyl aromatic polymer foams prepared with
 Me formate blowing agent blend)

L6 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2007:561349 CAPLUS
 DN 146:523109
 ED Entered STN: 24 May 2007
 TI Method of molding rigid polyurethane foams with enhanced thermal
 conductivity
 IN De Vos, Hans A. G.; Parenti, Vanni
 PA Dow Global Technologies Inc., USA
 SO PCT Int. Appl., 33pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007058793	A1	20070524	WO 2006-US42979	20061103
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
AU 2006315842	A1	20070524	AU 2006-315842	20061103
CA 2629090	A1	20070524	CA 2006-2629090	20061103
EP 1951777	A1	20080806	EP 2006-827462	20061103
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
KR 2008077176	A	20080821	KR 2008-714209	20080613
PRAI US 2005-736247P	P	20051114		
WO 2006-US42979	W	20061103		

CLASS
 PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2007058793	IPCI	C08G0018-08 [I,A]; C08G0018-00 [I,C*]; C08J0009-12 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08G0018-00 [I,C]; C08G0018-08 [I,A]; C08J0009-00 [I,C]; C08J0009-12 [I,A]
	ECLA	C08G018/76D2; C08G018/48A8; C08G018/48D; M08G; M08G
AU 2006315842	IPCI	C08G0018-00 [I,C]; C08G0018-08 [I,A]; C08J0009-00 [I,C]; C08J0009-12 [I,A]
	ECLA	C08G018/76D2; C08G018/48A8; C08G018/48D; M08G; M08G
CA 2629090	IPCI	C08G0018-08 [I,A]; C08G0018-00 [I,C*]; C08J0009-12 [I,A]; C08J0009-00 [I,C*]
EP 1951777	IPCI	C08G0018-08 [I,A]; C08G0018-00 [I,C*]; C08J0009-12 [I,A]; C08J0009-00 [I,C*]
KR 2008077176	IPCI	C08G0018-08 [I,A]; C08G0018-00 [I,C*]; C08J0009-12 [I,A]; C08J0009-00 [I,C*]

AB The molded rigid polyurethane foam for application in appliance, has reduced thermal conductivity at d. 33-38 kg/m3. The molded rigid polyurethane foam is obtained by injecting into a closed mold cavity under reduced pressure a reaction mixture at packing factor 1.1-1.9, wherein the reaction mixture comprises (A) an organic polyisocyanate; (B) a phys. blowing agent, (C) a polyol composition containing ≥ 1 polyol with functionality ≥ 3 and hydroxyl number 200-800, (D) 0-2.5% water; (E) a catalyst and (F) auxiliary substances and/or additives.

ST polyurethane foam rigid reduced thermal cond

IT Hydrocarbons, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (chlorofluorocarbons, blowing agent; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT Hydrocarbons, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (fluoro, blowing agent; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (foam; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT Appliances
 Blowing agents
 Polymerization catalysts
 Thermal insulators
 (method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT Molded plastics, uses
 Plastic foams
 RL: TEM (Technical or engineered material use); USES (Uses)
 (method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyester-polyoxyalkylene-, foam; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, foam; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT 78-78-4, Isopentane 106-97-8, n-Butane, uses 107-31-3, Methyl formate 110-82-7, Cyclohexane, uses 156-60-5 287-92-3, Cyclopentane 406-58-6, HFC 365mfc 431-89-0, HFC 227 460-73-1, HFC 245fa

7732-18-5, Water, uses

RL: NUU (Other use, unclassified); USES (Uses)

(blowing agent; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT 936846-36-5P 937040-61-4P 937040-62-5P 937040-63-6P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (foam; method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT 90-72-2, Dabco TMR 30 98-94-2, Polycat 8 3030-47-5, Polycat 5

RL: CAT (Catalyst use); USES (Uses)

(method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

IT 109-66-0, n-Pentane, uses

RL: NUU (Other use, unclassified); USES (Uses) (method of molding rigid polyurethane foams with enhanced thermal conductivity for appliance)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Elastogran GmbH; EP 0708127 A2 1996 CAPLUS

(2) Lunardon Gianflavio; US 5530033 A 1996 CAPLUS

(3) Slaats, M; US 3970732 A1 1976

L6 ANSWER 5 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:17507 CAPLUS

DN 146:102023

ED Entered STN: 05 Jan 2007

TI Process for preparation of molded polyurethane articles

IN Enaux, Vincent; Debien, Christian Geert Marie Ghislain

PA Arkema, Fr.

SO Fr. Demande, 11pp.

CODEN: FRXXBL

DT Patent

LA French

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	FR 2887889	A1	20070105	FR 2005-6626	20050629
	FR 2887889	B1	20070831		
	WO 2007003726	A1	20070111	WO 2006-FR1116	20060518
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	EP 1904562	A1	20080402	EP 2006-764642	20060518
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	CN 101223220	A	20080716	CN 2006-80026268	20080118
PRAI	FR 2005-6626	A	20050629		
	WO 2006-FR1116	W	20060518		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2887889	IPCI	C08G0018-08 [I,A]; C08G0018-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-34 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08G0018-00 [I,C]; C08G0018-08 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C08J0009-34 [I,A]
	ECLA	C08J009/34+L75/04; C08J009/14P+L75/04
WO 2007003726	IPCI	C08J0009-14 [I,A]; C08J0009-34 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C08J0009-34 [I,A]
	ECLA	C08J009/34+L75/04; C08J009/14P+L75/04
EP 1904562	IPCI	C08J0009-14 [I,A]; C08J0009-34 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C08J0009-34 [I,A]
CN 101223220	IPCI	C08J0009-14 [I,A]; C08J0009-34 [I,A]; C08J0009-00 [I,C*]
AB		The invention relates to a method of preparation of articles molded out of polyurethane, which have a cellular core and a skin layer with a certain hardness, and to foams prepared by this method. The invention also has an aim at premixing a functional composition which is reactive with isocyanates.
ST		polyurethane foam molding
IT		Hydrocarbons, uses RL: NUU (Other use, unclassified); USES (Uses) (fluoro, blowing agent; process for preparation of molded polyurethane articles)
IT		Blowing agents (process for preparation of molded polyurethane articles)
IT		Polyurethanes, uses RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (process for preparation of molded polyurethane articles)
IT		Plastic foams RL: TEM (Technical or engineered material use); USES (Uses) (process for preparation of molded polyurethane articles)
IT		156-60-5 406-58-6, 1,1,1,3,3-Pentafluorobutane 431-89-0, 1,1,1,2,3,3,3-Heptafluoropropane 460-73-1, 1,1,1,3,3-Pentafluoropropane RL: NUU (Other use, unclassified); USES (Uses) (blowing agent; process for preparation of molded polyurethane articles)
IT		917967-44-3P RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (process for preparation of molded polyurethane articles)
RE.CNT	5	THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE		(1) Atofina Chemicals Inc; EP 1435371 A 2004 CAPLUS (2) Bogdan, M; US 2003050356 A1 2003 CAPLUS (3) Bogdan, M; US 6764990 B1 2004 CAPLUS (4) Honeywell International Inc; WO 03078539 A 2003 CAPLUS (5) Wu, J; US 6793845 B1 2004 CAPLUS
L6		ANSWER 6 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN		2006:1205710 CAPLUS
DN		145:489980
ED		Entered STN: 16 Nov 2006
TI		Making rigid urethane-modified polyisocyanurate foams, compositions, and foam fabrication
IN		Kuester, Joern Matthias
PA		Huntsman International LLC, USA
SO		Eur. Pat. Appl., 10pp. CODEN: EPXXDW
DT		Patent

LA English
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1721919	A1	20061115	EP 2005-103827	20050509
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				

PRAI EP 2005-103827 20050509

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	EP 1721919	IPCI	C08G0018-09 [I,A]; C08G0018-79 [I,A]; C08G0018-76 [I,A]; C08G0018-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]
		IPCR	C08G0018-00 [I,C]; C08G0018-09 [I,A]; C08G0018-76 [I,A]; C08G0018-79 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]
		ECLA	C08G018/09D; C08G018/40A2
AB	Rigid urethane-modified polyisocyanurate foams are made at NCO index 300-600% from polyisocyanates and polyfunctional isocyanate-reactive components in the presence of a hydrocarbon or hydrofluorocarbon blowing agent and trans-1,2-dichloroethylene, and trimerization catalyst.		
ST	polyurethane polyisocyanate rigid foam blowing agent		
IT	Thermal insulators (boards; making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Hydrocarbons, uses RL: NUU (Other use, unclassified); USES (Uses) (fluoro; making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Blowing agents Fire-resistant materials Laminated materials (making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Plastic foams Polyesters, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Hydrocarbons, uses RL: NUU (Other use, unclassified); USES (Uses) (making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Polyurethanes, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyester-polyether-polyisocyanurate-; making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Polyisocyanurates RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyester-polyether-polyurethane-; making rigid urethane-modified polyisocyanurate foams with good green adhesion)		
IT	Polyethers, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyester-polyisocyanurate-polyurethane-; making rigid		

urethane-modified polyisocyanurate foams with good green adhesion)

IT Polyesters, preparation
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyether-polyisocyanurate-polyurethane-; making rigid urethane-modified polyisocyanurate foams with good green adhesion)

IT 156-60-5, trans-1,2-Dichloroethylene
 RL: MOA (Modifier or additive use); USES (Uses)
 (for improved adhesion; making rigid urethane-modified polyisocyanurate foams with good green adhesion)

IT 9016-87-9DP, Polymeric MDI, polyester-polyether-polyisocyanurate derivative
 25038-59-9DP, hydroxy-terminated, polyisocyanurate derivative
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (making rigid urethane-modified polyisocyanurate foams with good green adhesion)

IT 78-78-4, Isopentane 109-66-0, n-Pentane, uses 287-92-3, Cyclopentane
 460-73-1, HFC 245fa
 RL: NUU (Other use, unclassified); USES (Uses)
 (making rigid urethane-modified polyisocyanurate foams with good green adhesion)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Atofina Chemicals Inc; EP 1382636 A 2004 CAPLUS
- (2) Atofina Chemicals Inc; EP 1435371 A 2004 CAPLUS
- (3) Bogdan, M; WO 02099006 A 2002 CAPLUS
- (4) Wu, J; JOURNAL OF CELLULAR PLASTICS 2005, V41(1), P15 CAPLUS

L6 ANSWER 7 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2006:978982 CAPLUS

DN 145:357937

ED Entered STN: 21 Sep 2006

TI Reduced-VOC and non-VOC blowing agents for making expanded and extruded thermoplastic foams

IN Handa, Yash Paul; Francis, Gary A.

PA USA

SO U.S. Pat. Appl. Publ., 18pp., Cont.-in-part of U.S. Ser. No. 151,814.
 CODEN: USXXCO

DT Patent

LA English

INCL 521079000; 521098000; 521142000

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20060211782	A1	20060921	US 2006-367652	20060303
	US 20060052464	A1	20060309	US 2004-934832	20040903
	US 7307105	B2	20071211		
	US 20060047009	A1	20060302	US 2004-16312	20041217
	US 7312253	B2	20071225		
	US 20060052465	A1	20060309	US 2005-122158	20050503
	US 20060052466	A1	20060309	US 2005-151814	20050613
	CA 2579337	A1	20060316	CA 2005-2579337	20050901
	EP 1802688	A1	20070704	EP 2005-793425	20050901
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	JP 2008512509	T	20080424	JP 2007-530314	20050901
	US 20070208094	A1	20070906	US 2007-680170	20070228
	MX 200702580	A	20070516	MX 2007-2580	20070302
PRAI	US 2004-934832	A2	20040903		
	US 2004-16312	A2	20041217		
	US 2005-122158	A2	20050503		

US 2005-151814	A2	20050613
WO 2005-US30983	W	20050901
US 2006-367652	A2	20060303

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20060211782	INCL	521079000; 521098000; 521142000
	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]
	IPCR	C08J0009-00 [I,C]; C08J0009-00 [I,A]; C08J0009-14 [I,A]
	NCL	521/079.000; 521/098.000; 521/142.000
US 20060052464	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]; C08J0009-00 [I,A]; C08J0009-14 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]
	NCL	521/079.000; 521/098.000; 521/142.000; 521/097.000; 521/146.000
US 20060047009	IPCI	C08J0009-00 [I,A]; C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]
	NCL	521/079.000; 521/098.000; 521/142.000; 521/146.000
	ECLA	C08J009/14P+L25/04; C08J009/12F+L25/04
US 20060052465	IPCI	C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]
	NCL	521/079.000
US 20060052466	IPCI	C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,A]; C08J0009-00 [I,C]
	NCL	521/099.000
CA 2579337	IPCI	C08J0009-14 [I,A]; C08J0009-228 [I,A]; C08J0009-00 [I,C*]; C08L0025-06 [I,A]; C08L0025-00 [I,C*]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C08J0009-228 [I,A]; C08L0025-00 [I,C]; C08L0025-06 [I,A]
EP 1802688	IPCI	C08J0009-00 [I,A]; C08J0009-14 [I,A]
	ECLA	C08J009/14D+L25/04; C08J009/12F+L25/04; C08J009/14P+L25/04
JP 2008512509	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	FTERM	4F074/AA32; 4F074/AC32; 4F074/BA32; 4F074/BA33; 4F074/BA34; 4F074/BA35; 4F074/BA36; 4F074/BA37; 4F074/BA38; 4F074/BA39; 4F074/BA53; 4F074/BA67; 4F074/BA72; 4F074/BA73; 4F074/BA74; 4F074/BA75; 4F074/BA84; 4F074/CA22; 4F074/CA24; 4F074/CC03X; 4F074/CC04X; 4F074/CC04Y; 4F074/CC05Z; 4F074/DA02; 4F074/DA03; 4F074/DA12; 4F074/DA14; 4F074/DA23; 4F074/DA32; 4F074/DA33; 4F074/DA34
US 20070208094	IPCI	C08J0009-00 [I,A]
	IPCR	C08J0009-00 [I,C]; C08J0009-00 [I,A]
	NCL	521/079.000
	ECLA	C08J009/14D+L25/04; C08J009/12F+L25/04; C08J009/14P+L25/04
MX 200702580	IPCI	C08J0009-00 [I,C]; C08J0009-14 [I,A]
AB	Low d. expanded and extruded thermoplastic polymer foams are obtained using an environmentally benign non-VOC and non-HAP (hazardous air pollutant) Me formate as a blowing agent. The blowing agent blend can further comprise ≥1 co-blowing agent. The co-blowing agent is either a phys. co-blowing agent (e.g. an inorg. agent, a hydrocarbon, a halogenated hydrocarbon, a hydrocarbon with polar, functional group(s), water or any combination thereof), or a chemical co-blowing agent, or combinations thereof. Thus, a foam prepaped by tandem extruding at 200° polystyrene having d. 1.05 g/cm3 and melt flow rate 1.6 g/10 min at 200° containing 3.22 weight% (based on total composition) Me formate and 0.76 weight% CO2 (phys. co-blowing agent) and 0.5 weight% talc exhibits d. 5.6 lb/ft3, open cells content 5.6% and cell size 209 μ.	
ST	blowing agent Me formate thermoplastic foam reduced VOC; phys coblowing agent carbon dioxide thermoplastic foam reduced VOC	
IT	Extruded plastics	

RL: TEM (Technical or engineered material use); USES (Uses)
 (foam; low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

IT Blowing agents
 (low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

IT Plastic foams
 RL: TEM (Technical or engineered material use); USES (Uses)
 (thermoplastic; low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

IT 75-68-3, HCFC 142b 115-10-6, Dimethyl ether 156-60-5, trans-1,2-Dichloroethylene 460-73-1, HFC 245fa 811-97-2, HFC 134a 7732-18-5, Water, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (co-blowing agent; low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

IT 74-84-0, Ethane, uses 74-98-6, Propane, uses 75-28-5, Isobutane 75-37-6, HFC 152a 78-78-4, Isopentane 106-97-8, Butane, uses 124-38-9, Carbon dioxide, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (co-blowing agent; low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

IT 107-31-3, Methyl formate
 RL: NUU (Other use, unclassified); USES (Uses)
 (low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

IT 9003-53-6, Polystyrene
 RL: POF (Polymer in formulation); USES (Uses)
 (low d. expanded and extruded thermoplastic polymer foams prepared with Me formate as a blowing agent)

L6 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2006:849937 CAPLUS
 DN 145:248838
 ED Entered STN: 25 Aug 2006
 TI Non-flammable composition additives containing trans-1,2-dichloroethylene for use in polymers
 IN Latil, Laurent; Enaux, Vincent
 PA Arkema, Fr.
 SO Fr. Demande, 11pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 CC 23-3 (Aliphatic Compounds)
 Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	FR 2882358	A1	20060825	FR 2005-1832	20050223
	FR 2882358	B1	20070427		
	CA 2597778	A1	20060831	CA 2006-2597778	20060203
	WO 2006090042	A1	20060831	WO 2006-FR252	20060203
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,			

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM
 EP 1851301 A1 20071107 EP 2006-709241 20060203
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
 CN 101120081 A 20080206 CN 2006-80005100 20070816
 PRAI FR 2005-1832 A 20050223
 WO 2006-FR252 W 20060203

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2882358	IPCI	C07C0021-073 [I,A]; C07C0021-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C11D0007-50 [I,A]; C08L0075-04 [I,A]; C08L0075-00 [I,C*]
	IPCR	C07C0021-00 [I,C]; C07C0021-073 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C08L0075-00 [I,C]; C08L0075-04 [I,A]; C11D0007-50 [I,C]; C11D0007-50 [I,A]
	ECLA	C07C019/08; C07C021/073; C08J009/14H2; C08J009/14H2+L75/04; C08J009/14H2C; C08J009/14H2F; C08J009/14P; C11D007/50A6; C23G005/028D; M11D; T05K
CA 2597778	IPCI	C07C0019-08 [I,A]; C07C0019-00 [I,C*]; C07C0021-073 [I,A]; C07C0021-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C11D0007-50 [I,A]
	IPCR	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C07C0019-00 [I,C]; C07C0019-08 [I,A]; C07C0021-00 [I,C]; C07C0021-073 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]
	ECLA	C07C019/08; C07C021/073; C08J009/14H2; C08J009/14H2+L75/04; C08J009/14H2C; C08J009/14H2F; C08J009/14P; C11D007/50A6; C23G005/028D; M11D; T05K
WO 2006090042	IPCI	C11D0007-50 [I,A]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-00 [I,C*]; C07C0021-073 [I,A]; C07C0021-00 [I,C*]
	ECLA	C07C019/08; C07C021/073; C08J009/14H2; C08J009/14H2+L75/04; C08J009/14H2C; C08J009/14H2F; C08J009/14P; C11D007/50A6; C23G005/028D; M11D; T05K
EP 1851301	IPCI	C11D0007-50 [I,A]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-00 [I,C*]; C07C0021-073 [I,A]; C07C0021-00 [I,C*]
	IPCR	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C07C0019-00 [I,C]; C07C0019-08 [I,A]; C07C0021-00 [I,C]; C07C0021-073 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]
	ECLA	C07C019/08; C07C021/073; C08J009/14H2; C08J009/14H2+L75/04; C08J009/14H2C; C08J009/14H2F; C08J009/14P; C11D007/50A6; C23G005/028D; M11D; T05K
CN 101120081	IPCI	C11D0007-50 [I,A]; C07C0019-08 [I,A]; C07C0019-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C07C0021-073 [I,A]; C07C0021-00 [I,C*]
AB		A non-flammable composition additives containing trans-1,2-dichloroethylene, 1,1,1,3,3-pentafluoropropane, and 1,1,1,2-tetrafluoroethane, are described for use in polymers (e.g., Stepanpol PS2412).
ST		dichloroethylen pentafluoropropane tetrafluoroethane fireproofing compn polymer
IT		Alkanes, uses
	RL:	TEM (Technical or engineered material use); USES (Uses) (fluoro; in non-flammable composition additives containing trans-1,2-dichloroethylene for use in polymers)
IT		Fireproofing agents (non-flammable composition additives containing trans-1,2-dichloroethylene for use in polymers)

IT Alcohols, properties
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (polyhydric; non-flammable composition additives containing trans-1,2-
 dichloroethylene for use in polymers)

IT Plastics, properties
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (thermoplastics; non-flammable composition additives containing
 trans-1,2-dichloroethylene for use in polymers)

IT 460-73-1, 1,1,1,3,3-Pentafluoropropane 811-97-2,
 1,1,1,2-Tetrafluoroethane
 RL: TEM (Technical or engineered material use); USES (Uses)
 (in non-flammable composition additives containing
 trans-1,2-dichloroethylene
 for use in polymers)

IT 439592-40-2, Stepanpol PS 2412
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (non-flammable composition additives containing trans-1,2-dichloroethylene
 for
 use in polymers)

IT 156-60-5, trans-1,2-Dichloroethylene
 RL: TEM (Technical or engineered material use); USES (Uses)
 (non-flammable composition additives containing trans-1,2-dichloroethylene
 for
 use in polymers)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Atofina Chemicals Inc; EP 1435371 A 2004 CAPLUS
- (2) Renault Daniel Auguste Marie Henri; US 3349039 A 1967 CAPLUS
- (3) Swan; US 6100229 A 2000 CAPLUS

L6 ANSWER 9 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2005:1313670 CAPLUS
 DN 144:54129
 ED Entered STN: 16 Dec 2005
 TI Azeotrope-like compositions of pentafluoropropane, methanol and
 dichloroethylene
 IN Hitters, Guillermo J.; Knopeck, Gary M.; Shankland, Ian R.; Singh, Rajiv
 R.
 PA Honeywell International Inc., USA
 SO U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C11D017-00
 ICS C11D017-08
 INCL 510415000
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050277565	A1	20051215	US 2004-867075	20040614
	US 7276471	B2	20071002		
	WO 2005123868	A1	20051229	WO 2005-US20817	20050614
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,				

ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
 MR, NE, SN, TD, TG
 EP 1756245 A1 20070228 EP 2005-760865 20050614
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
 JP 2008502777 T 20080131 JP 2007-516616 20050614
 PRAI US 2004-867075 A 20040614
 WO 2005-US20817 W 20050614

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20050277565	ICM	C11D017-00
	ICS	C11D017-08
	INCL	510415000
	IPCI	C11D0007-50 [I,A]
	IPCR	C07C0021-00 [I,C*]; C07C0021-073 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-08 [I,C*]; C11D0017-08 [I,A]
	NCL	510/415.000; 510/411.000; 134/038.000; 134/040.000; 252/067.000; 510/177.000; 510/273.000; 510/410.000
WO 2005123868	ECLA	C08J009/14P; C09K003/30; C09K005/04B4B
	IPCI	C09K0005-04 [ICM,7]; C09K0005-00 [ICM,7,C*]; C07C0021-073 [ICS,7]; C07C0021-00 [ICS,7,C*]; C09K0003-30 [ICS,7]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C07C0021-00 [I,C*]; C07C0021-073 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-08 [I,C*]; C11D0017-08 [I,A]
EP 1756245	ECLA	C08J009/14P; C09K003/30; C09K005/04B4B
	IPCI	C09K0005-04 [I,A]; C09K0005-00 [I,C*]; C07C0021-073 [I,A]; C07C0021-00 [I,C*]; C09K0003-30 [I,A]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C09K0005-00 [I,C]; C09K0005-04 [I,A]; C07C0021-00 [I,C]; C07C0021-073 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-30 [I,C]; C09K0003-30 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-08 [I,C*]; C11D0017-08 [I,A]
JP 2008502777	ECLA	C08J009/14P; C09K003/30; C09K005/04B4B
	IPCI	C09K0003-30 [I,A]; C09K0005-04 [I,A]; C09K0005-00 [I,C*]; C09K0003-00 [I,A]; F25B0001-00 [I,A]
	IPCR	C09K0003-30 [I,C]; C09K0003-30 [I,A]; C07C0021-00 [I,C*]; C07C0021-073 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-00 [I,C]; C09K0003-00 [I,A]; C09K0005-00 [I,C]; C09K0005-04 [I,A]; C11D0017-00 [I,C*]; C11D0017-00 [I,A]; C11D0017-08 [I,C*]; C11D0017-08 [I,A]; F25B0001-00 [I,C]; F25B0001-00 [I,A]
AB	The azeotrope-like compns. comprising 1,1,1,3,3-pentafluoropropane, methanol, and trans-1,2-dichloroethylene are suitable for use in aerosols, refrigerant compns., refrigeration systems, and blowing agent compns.	
ST	ternary azeotrope aerosol refrigerant blowing agent; pentafluoropropane methanol dichloroethylene azeotrope use	
IT	Aerosols	
	Blowing agents	

Refrigerants

(azeotrope-like compns. of pentafluoropropane, methanol and dichloroethylene)

IT Solvents

(ternary azeotrope; azeotrope-like compns. of pentafluoropropane, methanol and dichloroethylene)

IT Azeotropes

(ternary; azeotrope-like compns. of pentafluoropropane, methanol and dichloroethylene)

IT 67-56-1, Methanol, uses 156-60-5, trans-1,2-Dichloroethylene 460-73-1, 1,1,1,3,3-Pentafluoropropane

RL: TEM (Technical or engineered material use); USES (Uses)

(azeotrope-like compns. of pentafluoropropane, methanol and dichloroethylene)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; WO 02099006 2002 CAPLUS
- (2) Bartlett; US 5182040 A 1993 CAPLUS
- (3) Bartlett; US 5648017 A 1997 CAPLUS
- (4) Bogdan; US 20030050356 A1 2003
- (5) Bogdan; US 6790820 B2 2004 CAPLUS
- (6) Hitters; US 20030141481 A1 2003 CAPLUS
- (7) Knopeck; US 20030234380 A1 2003 CAPLUS
- (8) Knopeck; US 20040167053 A1 2004
- (9) Knopeck, G; Compositions of Pentafluoropropane 2003
- (10) Lund; US 5683974 A 1997 CAPLUS
- (11) Merchant; US 5116525 A 1992 CAPLUS
- (12) Swan; US 6100229 A 2000 CAPLUS
- (13) Westbrook; US 6852684 B1 2005 CAPLUS

L6 ANSWER 10 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:1073677 CAPLUS

DN 143:349418

ED Entered STN: 07 Oct 2005

TI Nonflammable composition useful as a solvent

IN Caron, Laurent; Lallier, Jean Pierre

PA Arkema, Fr.

SO Fr. Demande, 10 pp.

CODEN: FRXXBL

DT Patent

LA French

IC ICM C11D007-50

ICS C07C021-073

CC 48-11 (Unit Operations and Processes)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	FR 2868430	A1	20051007	FR 2004-3590	20040406
	FR 2868430	B1	20080801		
	WO 2005108542	A1	20051117	WO 2005-FR582	20050311
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

EP 1733018	A1	20061220	EP 2005-739522	20050311
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
JP 2007531812	T	20071108	JP 2007-506795	20050311
US 20080061272	A1	20080313	US 2006-593943	20061006
PRAI FR 2004-3590	A	20040406		
WO 2005-FR582	W	20050311		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2868430	ICM	C11D007-50
	ICS	C07C021-073
	IPCI	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C07C0021-00 [I,C]; C07C0021-073 [I,A]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
WO 2005108542	ECLA	C11D007/50A6; C08J009/14H2; M11D
	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
EP 1733018	ECLA	C11D007/50A6; C08J009/14H2; M11D
	IPCI	C11D0007-50 [I,A]; C23G0005-028 [I,A]; C23G0005-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C11D0007-50 [I,C]; C11D0007-50 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C23G0005-00 [I,C]; C23G0005-028 [I,A]
JP 2007531812	ECLA	C11D007/50A6; C08J009/14H2
	IPCI	C11D0007-30 [I,A]; C11D0007-22 [I,C*]; C11D0007-50 [I,A]; C23G0005-02 [I,A]; C23G0005-00 [I,C*]
	IPCR	C11D0007-22 [I,C]; C11D0007-30 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C11D0007-28 [N,A]; C11D0007-50 [I,C]; C11D0007-50 [I,A]; C23G0005-00 [I,C]; C23G0005-02 [I,A]; C23G0005-028 [I,A]
	FTERM	4H003/DA01; 4H003/DA05; 4H003/DA12; 4H003/DC03; 4H003/ED13; 4H003/ED26; 4H003/FA01; 4H003/FA45; 4K053/RA08; 4K053/RA31
US 20080061272	IPCI	C09K0003-00 [I,A]
	NCL	252/364.000; 252/182.120
AB	The invention relates to a mixture containing trans-1,2-dichloroethylene 80-99 (preferably 95-98) and 1,1,1,3,3-pentafluoropropane 1-20 weight% (preferably 2-5%). The solvent is suitable for cleaning, degreasing, drying of solid surfaces, flux removal from printed circuits, dry cleaning of textiles, cleaning of refrigeration systems, as blowing agents for manufacture of polyurethane foams, as heat transfer fluids, and as propellants for aerosols.	
ST	dichloroethylene pentafluoropropane mixt solvent	
IT	Solvents (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane mixture as)	
IT	Blowing agents Heat transfer agents Propellants (sprays and foams) (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture as)	
IT	Cleaning Degreasing (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture for)	

IT Printed circuits
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture
 for cleaning and defluxing of)

IT Refrigerating apparatus
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture
 for cleaning of)

IT Dry cleaning
 (trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent mixture
 for dry cleaning of textiles)

IT 156-60-5, trans-1,2-Dichloroethylene 460-73-1,
 1,1,1,3,3-Pentafluoropropane
 RL: TEM (Technical or engineered material use); USES (Uses)
 (in trans-1,2-dichloroethylene-1,1,1,3,3-pentafluoropropane solvent
 mixture)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Du Pont; WO 0017301 A 2000 CAPLUS
- (2) Gorton, E; US 5851977 A 1998 CAPLUS
- (3) Honeywell Int Inc; WO 03078539 A 2003 CAPLUS

L6 ANSWER 11 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2005:1073675 CAPLUS
 DN 143:327475
 ED Entered STN: 07 Oct 2005
 TI Blowing agent fire-resistant composition and its use.
 IN Caron, Laurent
 PA Arkema, Fr.
 SO Fr. Demande, 10 pp.
 CODEN: FRXXBL

DT Patent

LA French

IC ICM C08J009-04

ICS C09K003-30; C11D007-50; C08G018-06; C08G101-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 23

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2868427	A1	20051007	FR 2004-3591	20040406
	FR 2868427	B1	20060908		
	WO 2005108478	A1	20051117	WO 2005-FR629	20050316
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,				
	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,				
	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				
	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,				
	SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,				
	AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,				
	EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,				
	RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,				
	MR, NE, SN, TD, TG				
	EP 1732977	A1	20061220	EP 2005-739691	20050316
	EP 1732977	B1	20080618		
	R:				
	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				
	IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	CN 1942513	A	20070404	CN 2005-80011914	20050316
	JP 2007531814	T	20071108	JP 2007-506797	20050316
	AT 398646	T	20080715	AT 2005-739691	20050316
	KR 2007015167	A	20070201	KR 2006-720644	20061002
	US 20080105848	A1	20080508	US 2006-593945	20061006
PRAI	FR 2004-3591	A	20040406		

WO 2005-FR629

W

20050316

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2868427	ICM	C08J009-04
	ICS	C09K003-30; C11D007-50; C08G018-06; C08G101-00
	IPCI	C08J0009-00 [I,C]; C08G0018-00 [I,C]; C09K0003-30 [I,C]; C11D0007-50 [I,C]; C08J0009-04 [I,A]; C08G0018-06 [I,A]; C08G101-00 [N,A]; C09K0003-30 [I,A]; C11D0007-50 [I,A]
	IPCR	C09K0005-00 [I,C*]; C08J0009-14 [I,A]; C09K0005-04 [I,A]
WO 2005108478	ECLA	C09K003/30; C09K005/04B4B
	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
EP 1732977	ECLA	C08J009/14H2; C09K003/30; C09K005/04B4B
	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
CN 1942513	ECLA	C09K003/30; C09K005/04B4B; C08J009/14H2
	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
JP 2007531814	ECLA	C09K003/30; C09K005/04B4B
	IPCI	C08G0018-28 [I,A]; C08G0018-00 [I,C*]; C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C09K0005-04 [I,A]; C09K0005-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,A]
	IPCR	C08G0018-00 [I,C]; C08G0018-28 [I,A]; C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-00 [I,C]; C09K0003-30 [I,A]; C09K0003-00 [I,A]; C09K0003-30 [I,C]; C09K0003-30 [I,A]; C09K0005-00 [I,C]; C09K0005-04 [I,A]
	FTERM	4F074/AA80; 4F074/AA81; 4F074/BA48; 4F074/BA53; 4J034/CA03; 4J034/CA04; 4J034/CA05; 4J034/CB03; 4J034/CB04; 4J034/CB05; 4J034/CC03; 4J034/DA01; 4J034/DB04; 4J034/DF01; 4J034/DG03; 4J034/DG23; 4J034/HA01; 4J034/HA07; 4J034/HA09; 4J034/HC12; 4J034/HC61; 4J034/HC64; 4J034/HC67; 4J034/HC71; 4J034/MA11; 4J034/NA02; 4J034/QC01
AT 398646	IPCI	C08J0009-00 [I,C]; C08J0009-14 [I,A]
	IPCR	C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
KR 2007015167	ECLA	C08J009/14H2; C09K003/30; C09K005/04B4B
	IPCI	C08K0005-02 [I,A]; C08K0005-00 [I,C*]; C09K0003-30 [I,A]; C09K0005-04 [I,A]; C09K0005-00 [I,C*]
US 20080105848	IPCI	C09K0003-00 [I,A]
	NCL	252/067.000

AB A blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams manufacture comprises 5 - 74 weight% of 1,1,3,3-pentafluorobutane (I), 24 - 93 weight% of trans-1,2-dichloroethylene (II) and 2 - 46 weight% of 1,1,1,3,3-pentafluoropropane (III). A typical composition consists of 100 weight parts of polyol Stepanpol PS2412 and 5 weight

parts of a blowing agent (consisting of 33 weight% I, 34 weight% II and 33 weight% III).

ST blowing agent fire resistant polyurethane polyisocyanurate foam; pentafluorobutane dichloroethylene pentafluoropropane blowing agent fire

resistant foam

IT Blowing agents
Fire-resistant materials
(blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams)

IT Plastic foams
Polyisocyanurates
Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams)

IT Hydrocarbons, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(fluoro; blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams)

IT Polyesters, uses
RL: POF (Polymer in formulation); USES (Uses)
(hydroxy-terminated; blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams)

IT 156-60-5, trans-1,2-Dichloroethylene 406-58-6,
1,1,1,3,3-Pentafluorobutane 431-89-0, 1,1,1,2,3,3,3-Heptafluoropropane
460-73-1, 1,1,1,3,3-Pentafluoropropane
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams)

IT 439592-40-2, Stepanpol PS 2412
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(blowing agent composition for fire-resistant polyurethane and polyisocyanurate foams)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Shankland, I; US 2003234380 A1 2003 CAPLUS

(2) Singh, R; WO 02099006 A 2002 CAPLUS

L6 ANSWER 12 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:648800 CAPLUS

DN 143:135297

ED Entered STN: 26 Jul 2005

TI Cleaning agent for charged precision electronics

IN Wang, Shengwen; Chen, Zulin

PA Gaoqi Environmental Protection Technology Co., Ltd., Guangzhou Nansha

Economic and technological Development Zone, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 11 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

IC ICM C11D007-30

CC 46-6 (Surface Active Agents and Detergents)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	CN 1417314	A	20030514	CN 2001-129859	20011102
	CN 1727462	A	20060201	CN 2005-10072374	20011102
PRAI	CN 2001-129859	A3	20011102		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
-----	-----	-----
CN 1417314	ICM	C11D007-30
	IPCI	C11D0007-30 [ICM,7]; C11D0007-22 [ICM,7,C*]

IPCR C11D0007-22 [I,C*]; C11D0007-30 [I,A]
 CN 1727462 IPCI C11D0007-30 [I,A]; C11D0007-22 [I,C*]
 AB The cleaning agent is composed of 1,1,1,2,2,3,4,5,5,5-decafluoropentane (HFC43-10/tDCE) 2.0-95.0, trans-dichloroethylene 0.5-8.0, heptane 0.1-3.0, acetone 0.1-3.5, cyclohexane 0.1-8.0, and stabilizing agent 0.1-1.5%. The cleaning agent may be composed of methoxynonafluorobutane 2.0-92.0, 1,1,1,3,3-pentafluoropropane (HFC245Fa) 1.0- 80.0, nonane 0.1-5.0, acetone 0.1-5.0, isopropanol 0.1-8.0, and stabilizing agent 0.1-1.0%. The cleaning agent may be also composed of chloropentafluoropropane (HCFC AK-225) 1.0-90.0, dichlorofluoroethane (HCFC141b) 1.0-85.0, nonane 0.1-5.0, acetone 0.1-5.0, and stabilizing agent 0.1-2.0%.
 ST cleaning agent charged electronic
 IT Cleaning solvents
 Detergents
 (Cleaning agent for charged precision electronics)
 IT Detergents
 (cleaning compns.; Cleaning agent for charged precision electronics)
 IT 67-63-0, Isopropanol, uses 67-64-1, Acetone, uses 110-82-7, Cyclohexane, uses 111-84-2, Nonane 142-82-5, Heptane, uses 156-60-5 460-73-1, 1,1,1,3,3-Pentafluoropropane 1717-00-6, Dichlorofluoroethane 138495-42-8, 1,1,1,2,2,3,4,5,5,5-Decafluoropentane
 RL: NUU (Other use, unclassified); USES (Uses)
 (Cleaning agent for charged precision electronics containing)

L6 ANSWER 13 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2004:1019329 CAPLUS
 DN 141:425607
 ED Entered STN: 26 Nov 2004
 TI Flushing for refrigeration system components
 IN Thomas, Raymond H.; Cook, Kane D.; Manz, Anthony
 PA Honeywell International Inc., USA
 SO U.S. Pat. Appl. Publ., 7 pp.
 CODEN: USXXCO

DT Patent
 LA English
 IC ICM F28G001-00
 ICS C11D003-00; D06L001-00; B08B009-00; B08B007-04; C23G001-36
 INCL 134010000; 062303000; 134022120
 CC 46-6 (Surface Active Agents and Detergents)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040231702	A1	20041125	US 2004-824094	20040414
	CA 2526622	A1	20041209	CA 2004-2526622	20040521
	WO 2004105971	A1	20041209	WO 2004-US16229	20040521
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1626821	A1	20060222	EP 2004-753115	20040521
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
	CN 1826188	A	20060830	CN 2004-80021204	20040521
	JP 2007500597	T	20070118	JP 2006-533340	20040521

US 20060234896	A1	20061019	US 2006-420131	20060524
PRAI US 2003-473316P	P	20030522		
US 2004-824094	A	20040414		
WO 2004-US16229	W	20040521		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20040231702	ICM	F28G001-00
	ICS	C11D003-00; D06L001-00; B08B009-00; B08B007-04; C23G001-36
	INCL	134010000; 062303000; 134022120
	IPCI	F28G0001-00 [ICM,7]; C11D0003-00 [ICS,7]; D06L0001-00 [ICS,7]; B08B0009-00 [ICS,7]; B08B0007-04 [ICS,7]; C23G0001-36 [ICS,7]; C23G0001-00 [ICS,7,C*]
	IPCR	B08B0007-00 [I,C*]; B08B0007-00 [I,A]; B08B0009-02 [I,C*]; B08B0009-02 [I,A]; C11D0007-22 [I,C*]; C11D0007-30 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C23G0005-00 [I,C*]; C23G0005-02 [I,A]; C23G0005-028 [I,A]; C23G0005-04 [I,A]
	NCL	134/010.000; 062/303.000; 134/022.120
	ECLA	B08B007/00L; B08B009/02M2B6; C11D007/30; C11D011/00B2D6; C23G005/02; C23G005/028B; C23G005/04
CA 2526622	IPCI	B08B0007-00 [I,A]; B08B0009-032 [I,A]; B08B0009-02 [I,C*]
	IPCR	B08B0007-00 [I,A]; B08B0007-00 [I,C]; B08B0009-02 [I,C]; B08B0009-02 [I,A]; B08B0009-032 [I,A]; C11D0007-22 [I,C*]; C11D0007-30 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C23G0005-00 [I,C*]; C23G0005-02 [I,A]; C23G0005-04 [I,A]
	ECLA	B08B007/00L; B08B009/02M2B6; C11D007/30; C11D011/00B2D6; C23G005/02; C23G005/028B; C23G005/04
WO 2004105971	IPCR	B08B0007-00 [I,C*]; B08B0007-00 [I,A]; B08B0009-02 [I,C*]; B08B0009-02 [I,A]; C11D0007-22 [I,C*]; C11D0007-30 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C23G0005-00 [I,C*]; C23G0005-02 [I,A]; C23G0005-028 [I,A]; C23G0005-04 [I,A]
	ECLA	B08B007/00L; B08B009/02M2B6; C11D007/30; C11D011/00B2D6; C23G005/02; C23G005/028B; C23G005/04
EP 1626821	IPCI	B08B0007-00 [ICM,7]; B08B0009-032 [ICS,7]; B08B0009-02 [ICS,7,C*]
	IPCR	B08B0007-00 [I,C*]; B08B0007-00 [I,A]; B08B0009-02 [I,C*]; B08B0009-02 [I,A]; C11D0007-22 [I,C*]; C11D0007-30 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C23G0005-00 [I,C*]; C23G0005-02 [I,A]; C23G0005-028 [I,A]; C23G0005-04 [I,A]
	ECLA	B08B007/00L; B08B009/02M2B6; C11D007/30; C11D011/00B2D6; C23G005/02; C23G005/028B; C23G005/04
CN 1826188	IPCI	B08B0007-00 [I,A]; B08B0009-032 [I,A]; B08B0009-02 [I,C*]
JP 2007500597	IPCI	B08B0009-027 [I,A]; B08B0009-02 [I,C*]; B08B0003-02 [I,A]; B08B0003-08 [I,A]
	IPCR	B08B0009-02 [I,C]; B08B0009-027 [I,A]; B08B0003-02 [I,C]; B08B0003-02 [I,A]; B08B0003-08 [I,C]; B08B0003-08 [I,A]; B08B0007-00 [I,C*]; B08B0007-00 [I,A]; B08B0009-02 [I,A]; C11D0007-22 [I,C*]; C11D0007-30 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]; C23G0005-00 [I,C*]; C23G0005-02 [I,A]; C23G0005-028 [I,A]; C23G0005-04 [I,A]
	FTERM	3B116/AA12; 3B116/AA47; 3B116/AB51; 3B116/CD22; 3B201/AA12; 3B201/AA47; 3B201/AB51; 3B201/BB12; 3B201/BB13; 3B201/BB14; 3B201/CD22

US 20060234896 IPCI C11D0017-00 [I,A]
 IPCR C11D0017-00 [I,C]; C11D0017-00 [I,A]; B08B0007-00
 [I,C*]; B08B0007-00 [I,A]; B08B0009-02 [I,C*];
 B08B0009-02 [I,A]; C11D0007-22 [I,C*]; C11D0007-30
 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A];
 C23G0005-00 [I,C*]; C23G0005-02 [I,A]; C23G0005-028
 [I,A]; C23G0005-04 [I,A]
 NCL 510/407.000
 ECLA B08B007/00L; B08B009/02M2B6; C11D007/30;
 C11D011/00B2D6; C23G005/02; C23G005/028B; C23G005/04

AB A method and apparatus for cleaning a component of an air-conditioning or
 refrigeration system provides for flushing liquid solvent, preferably
 nonflammable solvent such as HFC 245fa through the component to remove
 contamination from the component. The flushed solvent is vaporized and
 the contamination removed from the vaporized solvent so as to clean the
 solvent of the contamination. The cleaned solvent is liquefied and reused
 to flush the system component.

ST refrigeration system pentafluoropropane solvent flushing method app;
 fluoropropane solvent refrigeration system flushing app

IT Detergents
 (cleaning compns.; flushing for refrigeration system components)

IT Hydrocarbons, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (fluoro, solvents; flushing for refrigeration system components)

IT Cleaning
 Refrigerating apparatus
 (flushing for refrigeration system components)

IT Refrigerating apparatus
 (household refrigerators; flushing for refrigeration system components)

IT Appliances
 (refrigerators; flushing for refrigeration system components)

IT 156-60-5, trans-1,2-Dichloroethylene 460-73-1, HFC 245fa
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solvent; flushing for refrigeration system components)

L6 ANSWER 14 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:772764 CAPLUS

DN 141:261651

ED Entered STN: 22 Sep 2004

TI Foam premixes having improved processability

IN Wu, Jinhuang; Caron, Laurent S. J.

PA Atofina Chemicals, Inc., USA

SO U.S., 2 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08G018-00

ICS C08G018-08; C08K003-00

INCL 252182240; 510412000; 510415000; 516012000; 521131000; 521098000

CC 38-2 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 6793845	B1	20040921	US 2003-420472	20030422
	CA 2459668	A1	20041022	CA 2004-2459668	20040304
	EP 1471102	A1	20041027	EP 2004-5508	20040308
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
	BR 2004000731	A	20050111	BR 2004-731	20040322
	JP 2004323831	A	20041118	JP 2004-103483	20040331
	CN 1550514	A	20041201	CN 2004-10035158	20040420
	MX 2004PA03818	A	20050425	MX 2004-PA3818	20040422

	US 20050009932	A1	20050113	US 2004-910814	20040803
	US 7098254	B2	20060829		
	US 20060281826	A1	20061214	US 2006-508440	20060823
PRAI	US 2003-420472	A	20030422		
	US 2004-910814	A1	20040803		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6793845	ICM	C08G018-00
	ICS	C08G018-08; C08K003-00
	INCL	252182240; 510412000; 510415000; 516012000; 521131000; 521098000
	IPCI	C08G0018-00 [ICM, 7]; C08G0018-08 [ICS, 7]; C08K0003-00 [ICS, 7]
	IPCR	C08J0009-00 [I, C*]; C08J0009-14 [I, A]; C08G0018-00 [I, C*]; C08G0018-00 [I, A]; C08G0018-08 [I, A]; C08G0018-40 [I, A]; C08J0009-00 [I, A]; C08J0009-04 [I, A]; C08J0009-228 [I, A]; C08K0003-00 [I, C*]; C08K0003-00 [I, A]; C08L0075-00 [I, C*]; C08L0075-04 [I, A]
	NCL	252/182.240; 510/412.000; 510/415.000; 516/012.000; 521/098.000; 521/131.000
CA 2459668	ECLA	C08J009/14H2+L75/04; C08J009/14P+L75/04
	IPCI	C08J0009-228 [ICM, 7]; C08J0009-00 [ICM, 7, C*]
	IPCR	C08J0009-00 [I, C*]; C08J0009-14 [I, A]; C08G0018-00 [I, C*]; C08G0018-00 [I, A]; C08G0018-08 [I, A]; C08G0018-40 [I, A]; C08J0009-00 [I, A]; C08J0009-04 [I, A]; C08J0009-228 [I, A]; C08K0003-00 [I, C*]; C08K0003-00 [I, A]; C08L0075-00 [I, C*]; C08L0075-04 [I, A]
EP 1471102	ECLA	C08J009/14H2+L75/04; C08J009/14P+L75/04
	IPCI	C08J0009-14 [ICM, 7]; C08J0009-00 [ICM, 7, C*]; C08L0075-04 [ICS, 7]; C08L0075-00 [ICS, 7, C*]
	IPCR	C08J0009-00 [I, C*]; C08J0009-14 [I, A]; C08G0018-00 [I, C*]; C08G0018-00 [I, A]; C08G0018-08 [I, A]; C08G0018-40 [I, A]; C08J0009-00 [I, A]; C08J0009-04 [I, A]; C08J0009-228 [I, A]; C08K0003-00 [I, C*]; C08K0003-00 [I, A]; C08L0075-00 [I, C*]; C08L0075-04 [I, A]
BR 2004000731	ECLA	C08J009/14H2+L75/04; C08J009/14P+L75/04
	IPCI	C08J0009-14 [ICM, 7]; C08J0009-00 [ICM, 7, C*]
	IPCR	C08J0009-00 [I, C*]; C08J0009-14 [I, A]; C08G0018-00 [I, C*]; C08G0018-00 [I, A]; C08G0018-08 [I, A]; C08G0018-40 [I, A]; C08J0009-00 [I, A]; C08J0009-04 [I, A]; C08J0009-228 [I, A]; C08K0003-00 [I, C*]; C08K0003-00 [I, A]; C08L0075-00 [I, C*]; C08L0075-04 [I, A]
JP 2004323831	ECLA	C08J009/14H2+L75/04; C08J009/14P+L75/04
	IPCI	C08J0009-14 [ICM, 7]; C08J0009-00 [ICM, 7, C*]; C08L0075-04 [ICS, 7]; C08L0075-00 [ICS, 7, C*]
	IPCR	C08G0018-00 [I, A]; C08G0018-00 [I, C*]; C08G0018-08 [I, A]; C08G0018-40 [I, A]; C08J0009-00 [I, C*]; C08J0009-04 [I, A]; C08J0009-14 [I, A]; C08J0009-228 [I, A]; C08K0003-00 [I, A]; C08K0003-00 [I, C*]; C08L0075-00 [I, C*]; C08L0075-04 [I, A]
	FTERM	4F074/AA78; 4F074/AA81; 4F074/BA42; 4F074/BA45; 4F074/BA53; 4F074/BA95; 4F074/CA21
CN 1550514	IPCI	C08J0009-04 [ICM, 7]; C08J0009-00 [ICM, 7, C*]; C08G0018-40 [ICS, 7]; C08G0018-00 [ICS, 7, C*]
	IPCR	C08J0009-00 [I, C*]; C08J0009-14 [I, A]; C08G0018-00 [I, C*]; C08G0018-00 [I, A]; C08G0018-08 [I, A]; C08G0018-40 [I, A]; C08J0009-00 [I, A]; C08J0009-04

[I,A]; C08J0009-228 [I,A]; C08K0003-00 [I,C*];
C08K0003-00 [I,A]; C08L0075-00 [I,C*]; C08L0075-04
[I,A]
ECLA C08J009/14H2+L75/04; C08J009/14P+L75/04
MX 2004PA03818 IPCI C08J0009-00 [ICM,7]
US 20050009932 IPCI C08J0009-14 [I,A]; C08J0009-00 [I,C*]; C08G0018-00
[I,A]
IPCR C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08G0018-00
[I,C*]; C08G0018-00 [I,A]; C08G0018-08 [I,A];
C08G0018-40 [I,A]; C08J0009-00 [I,A]; C08J0009-04
[I,A]; C08J0009-228 [I,A]; C08K0003-00 [I,C*];
C08K0003-00 [I,A]; C08L0075-00 [I,C*]; C08L0075-04
[I,A]
NCL 516/010.000; 516/012.000; 521/131.000; 521/098.000
ECLA C08J009/14H2+L75/04; C08J009/14P+L75/04
US 20060281826 IPCI C08G0018-48 [I,A]; C08G0018-00 [I,C*]
IPCR C08G0018-00 [I,C]; C08G0018-48 [I,A]
NCL 521/131.000
ECLA M08G

AB The processability of a foam premix containing hydrofluorocarbons and/or
pentane-based blowing agents in polyols, e.g., polyester polyols, is
improved by adding trans-1,2-dichloroethylene to the premix in an amount
effective to enhance the processability.

ST polyurethane foam processability dichloroethylene additive; blowing agent
pentane hydrofluorocarbon polyurethane foam processability; polyester
polyol polyurethane foam processability dichloroethylene additive

IT Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(cellular; foam premixes having improved processability contain
dichloroethylene)

IT Hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoro, blowing agents; foam premixes having improved processability
contain dichloroethylene and)

IT Plastic foams
RL: TEM (Technical or engineered material use); USES (Uses)
(foam premixes having improved processability contain
hydrofluorocarbons and dichloroethylene)

IT Blowing agents
(foam premixes having improved processability contain
hydrofluorocarbons and dichloroethylene as)

IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(hydroxy-terminated, foam components; foam premixes having improved
processability contain hydrofluorocarbons and dichloroethylene as)

IT 78-78-4, Isopentane 109-66-0, Pentane, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(blowing agent; foam premixes having improved processability contain
dichloroethylene and)

IT 406-58-6, 1,1,1,3,3-Pentafluorobutane 460-73-1,
1,1,1,3,3-Pentafluoropropane 811-97-2, 1,1,1,2-Tetrafluoroethane
RL: TEM (Technical or engineered material use); USES (Uses)
(foam premixes having improved processability contain dichloroethylene
and)

IT 156-60-5, trans-1,2-Dichloroethylene
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(foam premixes having improved processability contain
hydrofluorocarbons and)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Harris; US 20020061935 A1 2002

(2) Harris; US 6472444 B1 2002 CAPLUS
(3) Merchant; US 5196137 A 1993 CAPLUS
(4) Werner; US 5723509 A 1998 CAPLUS

L6 ANSWER 15 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:580665 CAPLUS
DN 141:124747
ED Entered STN: 21 Jul 2004
TI Azeotrope-like compositions of pentafluoropropane, chloropropane and dichloroethylene
IN Bogdan, Mary C.; Pham, Hang T.; Knopek, Gary M.; Singh, Rajiv R.; Williams, David J.; Cook, Kane D.
PA Honeywell International Inc., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C11D017-00
INCL 510408000; 510412000; 510415000
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 45

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6764990	B1	20040720	US 2003-455120	20030604
PRAI	US 2003-455120		20030604		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6764990	ICM	C11D017-00
	INCL	510408000; 510412000; 510415000
	IPCI	C11D0017-00 [ICM,7]
	IPCR	C11D0007-50 [I,C*]; C11D0007-50 [I,A]
	NCL	510/408.000; 510/412.000; 510/415.000
	ECLA	C11D007/50D2

AB Title azeotrope-like composition consists of 140 wt% of trans-1,2-dichloroethylene, 1-90 wt% of 2-chloropropane, and 10-99 wt% of HFC-245fa (1,1,1,3,3-pentafluoropropane). The composition is environmentally desirable for use as refrigerants, aerosol propellants, metered dose inhalers, blowing agents for polymer foam, heat transfer media, and gaseous dielects.

ST azeotrope compn pentafluoropropane chloropropane dichloroethylene

IT Propellants (sprays and foams)
(aerosol; azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT Blowing agents
Heat transfer agents
Refrigerants
(azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT Plastic foams
RL: TEM (Technical or engineered material use); USES (Uses)
(azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT Electric insulators
(gaseous; azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polyether-, foam stabilizers; azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT Polyethers, uses
RL: MOA (Modifier or additive use); USES (Uses)

(siloxane-, foam stabilizers; azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT 98-94-2
 RL: CAT (Catalyst use); USES (Uses)
 (azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT 59736-88-8P, 4,4'-Diphenylmethane diisocyanate-polypropylene glycol sucrose ether copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

IT 75-29-6, 2-Chloropropane 156-60-5, trans-1,2-Dichloroethylene 460-73-1, 1,1,1,3,3-Pentafluoropropane
 RL: MOA (Modifier or additive use); USES (Uses)
 (blowing agent; azeotrope-like compns. of pentafluoropropane, chloropropane and dichloroethylene)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Bailey; US 2834748 A 1958 CAPLUS
- (2) Bailey; US 2917480 A 1959 CAPLUS
- (3) Bement; US 6514928 B1 2003 CAPLUS
- (4) Fishback; US 5523333 A 1996 CAPLUS
- (5) Haluska; US 2846458 A 1958 CAPLUS
- (6) Kitamura; US 5895793 A 1999 CAPLUS
- (7) Samejima; US 5320683 A 1994 CAPLUS
- (8) Saunders; Polyurethanes Chemistry and Technology, 1962, VI and II
- (9) Swan; US 6100229 A 2000 CAPLUS

L6 ANSWER 16 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:550720 CAPLUS

DN 141:89880

ED Entered STN: 09 Jul 2004

TI Blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons

IN Galaton, Steve M.; Bertelo, Christopher

PA USA

SO U.S. Pat. Appl. Publ., 3 pp., Cont.-in-part of U.S. Pat. Appl. 2004 132,631.

CODEN: USXXCO

DT Patent

LA English

IC ICM C11D017-00

INCL 510407000; 510412000

CC 37-2 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040132632	A1	20040708	US 2003-396747	20030325
	US 7144926	B2	20061205		
	US 20040132631	A1	20040708	US 2003-336368	20030102
	CA 2452737	A1	20040702	CA 2003-2452737	20031209
	MX 2003PA11741	A	20040723	MX 2003-PA11741	20031217
	JP 2004211081	A	20040729	JP 2003-420691	20031218
	BR 2003005963	A	20040914	BR 2003-5963	20031222
	EP 1435371	A1	20040707	EP 2003-293344	20031229
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1515607	A	20040728	CN 2003-10124553	20031231
PRAI	US 2003-336368	A2	20030102		
	US 2003-396747	A	20030325		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20040132632	ICM	C11D017-00
	INCL	510407000; 510412000
	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]
	NCL	510/407.000; 510/412.000; 521/131.000; 252/067.000; 252/364.000; 510/408.000; 510/415.000; 510/470.000; 516/012.000; 521/155.000; 521/170.000
	ECLA	C08J009/14H2; C08J009/14H2+L75/04
US 20040132631	IPCI	C11D0017-00 [ICM,7]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]
	NCL	510/407.000
CA 2452737	IPCI	C08L0075-04 [ICM,7]; C08L0075-00 [ICM,7,C*]; C08K0005-02 [ICS,7]; C08K0005-00 [ICS,7,C*]; C08J0009-228 [ICS,7]; C08J0009-00 [ICS,7,C*]; C08G0018-32 [ICS,7]; C08G0018-72 [ICS,7]; C08G0018-00 [ICS,7,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-00 [I,A]; C08G0101-00 [N,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]
MX 2003PA11741	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]
JP 2004211081	IPCI	C08G0018-00 [ICM,7]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]; C08G0101-00 [ICS,7]; C08L0101-00 [ICS,7]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]
	FTERM	4F074/AA78; 4F074/BA43; 4F074/BA53; 4F074/BA95; 4F074/CA21; 4F074/CC04Y; 4F074/DA18; 4F074/DA32; 4J034/DA01; 4J034/DB03; 4J034/HA01; 4J034/HA07; 4J034/NA02; 4J034/QB17; 4J034/QC01
BR 2003005963	IPCI	C08K0005-02 [ICM,7]; C08K0005-00 [ICM,7,C*]; C08J0009-20 [ICS,7]; C08J0009-00 [ICS,7,C*]; C08G0071-04 [ICS,7]; C08G0071-00 [ICS,7,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-00 [I,A]; C08G0101-00 [N,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]
EP 1435371	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]; C08L0075-04 [ICS,7]; C08L0075-00 [ICS,7,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-00 [I,A]; C08G0101-00 [N,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]
CN 1515607	IPCI	C08K0005-02 [ICM,7]; C08K0005-00 [ICM,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-00 [I,A]; C08G0101-00 [N,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]
	ECLA	C08J009/14H2; C08J009/14H2+L75/04
AB	The hydrofluorocarbon-based foam blowing agent blends comprise trans-1,2-dichloroethylene and one or more hydrofluorocarbons such as 1,1,1,3,3-pentafluoropropane, 1,1,1,3,3-pentafluorobutane, and 1,1,1,2-tetrafluoroethane. The resulting foams exhibit dramatic improvement in fire performance. Thus, a foam sample with excellent fire performance was produced from a composition containing Desmodur 44V70 156.3, Stepanpol PS 2412 100, Polycat 5 0.17, K 15 2.71, B 8465 2, trans-1,2-dichloroethylene 2.85, and ,1,1,3,3-pentafluoropropane (HFC 245fa) 35.46 parts.	
ST	blowing agent trans dichloroethylene hydrofluorocarbon	
IT	Hydrocarbons, uses	
	RL: MOA (Modifier or additive use); USES (Uses)	
	(fluoro, blowing agent; production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)	
IT	Blowing agents	
	Fire-resistant materials	
	(production of blowing agent blends containing trans-1,2-dichloroethylene	
and	hydrofluorocarbons)	

IT Polyurethanes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)

IT Plastic foams
 RL: TEM (Technical or engineered material use); USES (Uses)
 (production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)

IT 156-60-5, trans-1,2-Dichloroethylene 406-58-6, 1,1,1,3,3-Pentafluorobutane 460-73-1, 1,1,1,3,3-Pentafluoropropane 811-97-2, 1,1,1,2-Tetrafluoroethane
 RL: MOA (Modifier or additive use); USES (Uses)
 (blowing agent; production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)

IT 439592-42-4P, Desmodur 44V70-Stepanpol PS 2412 copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Anon; EP 0527019 1999
- (2) Anon; WO 9935209 1999 CAPLUS
- (3) Barthelemy; US 5478492 A 1995 CAPLUS
- (4) Bogdan; US 6790820 B1 2004 CAPLUS
- (5) Fitzgerald; US 6746998 B1 2004
- (6) Hitters; US 20030141481 A1 2003 CAPLUS
- (7) Knopeck; US 20030234380 A1 2003 CAPLUS
- (8) Merchant; US 5194170 A 1993 CAPLUS
- (9) Merchant; US 5196137 A 1993 CAPLUS
- (10) Singh; US 6455601 B1 2002 CAPLUS
- (11) Swan; US 5126067 A 1992 CAPLUS
- (12) VON Bonin; US 4024090 A 1977 CAPLUS

L6 ANSWER 17 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2004:545719 CAPLUS
 DN 141:89878

ED Entered STN: 08 Jul 2004
 TI Blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons
 IN Galaton, Steven Marc; Bertelo, Christopher Anthony
 PA Atofina Chemicals, Inc., USA
 SO Eur. Pat. Appl., 6 pp.
 CODEN: EPXXDW

DT Patent
 LA English
 IC ICM C08J009-14
 ICS C08L075-04

CC 37-2 (Plastics Manufacture and Processing)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 1435371	A1	20040707	EP 2003-293344	20031229
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 20040132631	A1	20040708	US 2003-336368	20030102

	US 20040132632	A1	20040708	US 2003-396747	20030325
	US 7144926	B2	20061205		
PRAI	US 2003-336368	A	20030102		
	US 2003-396747	A	20030325		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1435371	ICM	C08J009-14
	ICS	C08L075-04
	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]; C08L0075-04 [ICS,7]; C08L0075-00 [ICS,7,C*]
	IPCR	C08G0018-00 [I,C*]; C08G0018-00 [I,A]; C08G0101-00 [N,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]
US 20040132631	IPCI	C11D0017-00 [ICM,7]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]
	NCL	510/407.000
US 20040132632	IPCI	C08J0009-14 [I,A]; C08J0009-00 [I,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]
	NCL	510/407.000; 510/412.000; 521/131.000; 252/067.000; 252/364.000; 510/408.000; 510/415.000; 510/470.000; 516/012.000; 521/155.000; 521/170.000
	ECLA	C08J009/14H2; C08J009/14H2+L75/04
AB	The hydrofluorocarbon-based foam blowing agent blends comprise trans-1,2-dichloroethylene and one or more hydrofluorocarbons such as 1,1,1,3,3-pentafluoropropane, 1,1,1,3,3-pentafluorobutane, and 1,1,1,2-tetrafluoroethane. The resulting foams exhibit dramatic improvement in fire performance. Thus, a foam sample with excellent fire performance was produced from Desmodur 44V70 156.3, Stepanpol PS 2412 100, Polycat 5 0.17, K 15 2.71, B 8465 2, trans-1,2-dichloroethylene 2.85, and 1,1,1,3,3-pentafluoropropane (HFC 245fa) 35.46 parts.	
ST	blowing agent trans dichloroethylene hydrofluorocarbon	
IT	Hydrocarbons, uses	
	RL: MOA (Modifier or additive use); USES (Uses) (fluoro, blowing agent; production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)	
IT	Blowing agents	
	Fire-resistant materials	
	(production of blowing agent blends containing trans-1,2-dichloroethylene	
and	hydrofluorocarbons)	
IT	Polyurethanes, preparation	
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (production of blowing agent blends containing trans-1,2-dichloroethylene	
and	hydrofluorocarbons)	
IT	Plastic foams	
	RL: TEM (Technical or engineered material use); USES (Uses) (production of blowing agent blends containing trans-1,2-dichloroethylene	
and	hydrofluorocarbons)	
IT	156-60-5 406-58-6, 1,1,1,3,3-Pentafluorobutane 460-73-1, 1,1,1,3,3-Pentafluoropropane 811-97-2, 1,1,1,2-Tetrafluoroethane	
	RL: MOA (Modifier or additive use); USES (Uses) (blowing agent; production of blowing agent blends containing trans-1,2-dichloroethylene and hydrofluorocarbons)	
IT	439592-42-4P, Desmodur 44V70-Stepanpol PS 2412 copolymer	
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (production of blowing agent blends containing trans-1,2-dichloroethylene	
and		

hydrofluorocarbons)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Honeywell Int Inc; WO 03051968 A 2003 CAPLUS
- (2) Merchant, A; US 5194170 A 1993 CAPLUS
- (3) Merchant, A; US 5196137 A 1993 CAPLUS
- (4) Singh, R; WO 02099006 A 2002 CAPLUS

L6 ANSWER 18 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:84179 CAPLUS

DN 140:132918

ED Entered STN: 02 Feb 2004

TI Attenuation of methane and volatile organic compounds in landfill soil covers

AU Scheutz, Charlotte; Mosbaek, Hans; Kjeldsen, Peter

CS Environment & Resources, Technical University of Denmark, Lyngby, DK-2800, Den.

SO Journal of Environmental Quality (2004), 33(1), 61-71

CODEN: JEVQAA; ISSN: 0047-2425

PB American Society of Agronomy

DT Journal

LA English

CC 60-5 (Waste Treatment and Disposal)

Section cross-reference(s): 19

AB The potential for natural attenuation of volatile organic compds. (VOCs) in landfill covers was investigated in soil microcosms incubated with methane and air, simulating the gas composition in landfill soil covers. Soil was sampled at Skellingsted Landfill at a location emitting methane. In total, 26 VOCs were investigated, including chlorinated methanes, ethanes, ethenes, fluorinated hydrocarbons, and aromatic hydrocarbons. The soil showed a high capacity for methane oxidation resulting in very high oxidation rates of between 24 and 112 $\mu\text{g CH}_4 \text{ g}^{-1} \text{ h}^{-1}$. All lower chlorinated compds. were shown degradable, and the degradation occurred in parallel with the oxidation of methane. In general, the degradation rates of the chlorinated aliphatics were inversely related to the chlorine to carbon ratios. For example, in batch expts. with chlorinated ethylenes, the highest rates were observed for vinyl chloride (VC) and lowest rates for trichloroethylene (TCE), while tetrachloroethylene (PCE) was not degraded. Maximal oxidation rates for the halogenated aliphatic compds. varied between 0.03 and 1.7 $\mu\text{g g}^{-1} \text{ h}^{-1}$. Fully halogenated hydrocarbons (PCE, tetrachloromethane [TeCM], chlorofluorocarbon [CFC]-11, CFC-12, and CFC-113) were not degraded in the presence of methane and oxygen. Aromatic hydrocarbons were rapidly degraded giving high maximal oxidation rates (0.17-1.4 $\mu\text{g g}^{-1} \text{ h}^{-1}$). The capacity for methane oxidation was related to the depth of oxygen penetration. The methane oxidizers were very active in oxidizing methane and the selected trace components down to a depth of 50 cm below the surface. Maximal oxidation activity occurred in a zone between 15 and 20 cm below the surface, as this depth allowed sufficient supply of both methane and oxygen. Mass balance calcns. using the maximal oxidation rates obtained demonstrated that landfill soil covers have a significant potential for not only methane oxidation but also cometabolic degradation of selected volatile orgs., thereby reducing emissions to the atmospheric

ST attenuation methane oxidn halo VOC degrdn landfill soil cover

IT Volatile organic compounds

RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)

(degradation; attenuation of methane and volatile organic compds. in landfill

soil covers)

IT Soils

Waste gases

(landfill, covers; attenuation of methane and volatile organic compds. in

landfill soil covers)

IT 56-23-5, Carbon tetrachloride, processes 67-66-3, Tri chloro methane, processes 71-43-2, Benzene, processes 71-55-6, 1,1,1-Tri chloroethane 75-01-4, Vinyl chloride, processes 75-09-2, Di chloro methane, processes 75-34-3, 1,1 Di chloro ethane 75-35-4, 1,1-Dichloroethylene, processes 75-43-4, Hcfc21 75-45-6, Hcfc22 75-69-4, Cfc11 75-71-8, Cfc12 76-13-1, Cfc113 79-00-5, 1,1,2-Trichloroethane 79-01-6, Trichloroethylene, processes 79-34-5, 1,1,2,2-Tetrachloroethane 100-41-4, Ethyl benzene, processes 107-06-2, 1,2 Di chloro ethane, processes 108-88-3, Toluene, processes 127-18-4, Tetrachloroethylene, processes 156-59-2, cis-1,2-Dichloroethylene 156-60-5, trans-1,2-Dichloroethylene 460-73-1, Hfc245fa 811-97-2, h Fc134a 1330-20-7, Xylene, processes 1717-00-6, Hcfc141b
 RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
 (attenuation of methane and volatile organic compds. in landfill soil covers)

IT 74-82-8, Methane, processes
 RL: FMU (Formation, unclassified); POL (Pollutant); REM (Removal or disposal); FORM (Formation, nonpreparative); OCCU (Occurrence); PROC (Process)
 (oxidation; attenuation of methane and volatile organic compds. in landfill soil covers)

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Allen, M; Environ Sci Technol 1997, V31, P1054 CAPLUS
- (2) Alvarez-Cohen, L; Appl Environ Microbiol 1991, V57, P1031 CAPLUS
- (3) Alvarez-Cohen, L; Appl Environ Microbiol 1991, V57, P228 CAPLUS
- (4) Alvarez-Cohen, L; Biodegradation 2001, V12, P105 CAPLUS
- (5) Aziz, C; Biotechnol Bioeng 1999, V65, P100 CAPLUS
- (6) Bender, M; Chemosphere 1993, V26, P687 CAPLUS
- (7) Boeckx, P; Nutr Cycling Agroecosyst 1997, V49, P91 CAPLUS
- (8) Bogner, J; Environ Sci Technol 1997, V31, P2504 CAPLUS
- (9) Borjesson, G; FEMS Microbiol Ecol 1998, V26, P207 CAPLUS
- (10) Brosseau, J; Atmos Environ 1994, V28, P285 CAPLUS
- (11) CambridgeSoft Corporation; ChemFinder.com database and internet searching [Online], <http://chemfinder.cambridgesoft.com/> 2003
- (12) Chang, W; Biodegradation 1995, V6, P1 CAPLUS
- (13) Christensen, T; Proc Sardinia '95, 5th Int Landfill Symp 1995, VIII, P3
- (14) Christophersen, M; J Environ Qual 2000, V29, P1989 CAPLUS
- (15) Christophersen, M; Waste Manage Res 2001, V19, P579 CAPLUS
- (16) Christophersen, M; Waste Manage Res 2001, V19, P595 CAPLUS
- (17) Czepiel, P; J Geophys Res [Atmos] 1996, V101, P16721 CAPLUS
- (18) DeFlaun, M; Bio/Technology 1992, V10, P1576 CAPLUS
- (19) De Visscher, A; Environ Sci Technol 1999, V33, P1854 CAPLUS
- (20) Deipser, A; Environ Sci Pollut Res Int 1997, V4, P209 CAPLUS
- (21) Ejlertsson, J; Antonie van Leeuwenhoek 1996, V69, P67 CAPLUS
- (22) Eklund, B; Environ Sci Technol 1998, V32, P2233 CAPLUS
- (23) El-Farhan, Y; J Environ Qual 2000, V29, P778 CAPLUS
- (24) Figueroa, R; Proc Sardinia '93, 4th Int Landfill Symp 1993, P701
- (25) Hanson, R; Microbiol Rev 1996, V60, P439 CAPLUS
- (26) Henson, J; J Ind Microbiol 1989, V4, P29 CAPLUS
- (27) Howard, P; Handbook of environmental fate and exposure data for organic chemicals. Solvents 1993, VIV
- (28) Janssen, D; Water Sci Technol 1995, V31(1), P237 CAPLUS
- (29) Jones, H; FEMS Microbiol Ecol 1993, V102, P185 CAPLUS
- (30) Key, B; Environ Sci Technol 1997, V31, P2445 CAPLUS
- (31) Kightley, D; Appl Environ Microbiol 1995, V61, P592 CAPLUS
- (32) King, G; Appl Environ Microbiol 1992, V58, P2758 CAPLUS
- (33) Kjeldsen, P; J Air Waste Manage Assoc 1997, V47, P1268 CAPLUS
- (34) Kjeldsen, P; Waste Manage Res 1995, V13, P467 CAPLUS
- (35) Landa, A; Appl Environ Microbiol 1994, V60, P3368 CAPLUS

- (36) Lelieveld, J; Tellus Ser B 1998, V50B, P128 CAPLUS
- (37) Liptay, K; J Geophys Res [Atmos] 1998, V103, P8243 CAPLUS
- (38) Lu, C; Water Sci Technol 1998, V38(7), P19 CAPLUS
- (39) Mackay, D; Illustrated handbook of physical-chemical properties and environmental fate of organic chemicals. Organic chemicals 1993, VIII
- (40) McLaren, R; Geoderma 1983, V31, P97 CAPLUS
- (41) Oldenhuis, R; Appl Environ Microbiol 1989, V55, P2819 CAPLUS
- (42) Oldenhuis, R; Appl Environ Microbiol 1991, V57, P7 CAPLUS
- (43) Oremland, R; Nature (London) 1992, V356, P421 CAPLUS
- (44) Rettenberger, G; Landfilling of waste: Biogas 1996, P51
- (45) Rivas, I; Water Sci Technol 2000, V41(4), P461
- (46) Soil Survey Staff; USDA Soil Conver Serv Agric Handb 1975, V436
- (47) Strand, S; Res J Water Pollut Control Fed 1990, V62, P124 CAPLUS
- (48) Streger, S; Environ Sci Technol 1999, V23, P4477
- (49) Svenning, M; FEMS Microbiol Ecol 2003, V44, P347 CAPLUS
- (50) Tsien, H; Appl Environ Microbiol 1989, V55, P3155 CAPLUS
- (51) Van Hylckama Vlieg, J; Appl Environ Microbiol 1996, V62, P3304 CAPLUS
- (52) Wallington, T; Environ Sci Technol 1994, V28, P320A CAPLUS
- (53) Whalen, S; Appl Environ Microbiol 1990, V56, P3405 CAPLUS
- (54) Willumsen, C; Proc Sardinia '91, 3rd Int Landfill Symp 1991, V1, P329

L6 ANSWER 19 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:4726 CAPLUS

DN 141:226487

ED Entered STN: 05 Jan 2004

TI Trans-1,2-dichloroethylene for improving fire performance of urethane foam

AU Wu, Jinhuang; Bertelo, Christopher; Caron, Laurent

CS ATOFINA Chemicals, Inc., King of Prussia, PA, 19406, USA

SO Conference Proceedings - Polyurethanes Expo, Orlando, FL, United States, Oct. 1-3, 2003 (2003), 454-462 Publisher: Alliance for the Polyurethanes Industry, Arlington, Va.
CODEN: 69EXJX

DT Conference

LA English

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

AB In the United States, HCFC-141b was phased out of urethane foam applications on Jan. 1, 2003. Zero ozone depletion-potential (ODP) alternatives such as hydrofluorocarbons (HFCs) and hydrocarbons (normal pentane, iso-pentane and cyclopentane) were introduced to replace HCFC-141b. However, none of these alternatives can match the performance of HCFC-141b in terms of handling, economics, and overall final product performance. In particular, the fire performance of hydrocarbon-based foams cannot reach the performance previously achieved with HCFC-141b. Trans-1,2-dichloroethylene is a liquid at room temperature (b.p. 48°). It does not deplete the ozone layer, and it has very low global warming potential (GWP) because it has very short atmospheric lifetime. The authors have

recently reported that when trans-1,2-dichloroethylene is used in urethane foams with hydrocarbons, it could improve the fire performance of the foams based on a small-scale fire test (Mobil 45). They report phys. properties such as dimensional stability and compressive strength of hydrocarbon/trans-1,2-dichloroethylene-based foams. They have also extended the studies of the use of trans-1,2-dichloroethylene and they report on the fire performance and phys. properties of HFC blown urethane foams incorporating trans-1,2-dichloroethylene.

ST hydrocarbon trans dichloroethylene blown urethane foam flammability improved; hydrofluorocarbon trans dichloroethylene blown urethane foam flammability improved

IT Polyurethanes, uses

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(cellular; nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

IT Blowing agents
Compressive strength
Fireproofing agents
Flammability
Thermal insulation foams
(nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

IT Hydrocarbons, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

IT Polymer degradation
(thermal; nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

IT 156-60-5, trans-1,2-Dichloroethylene
RL: MOA (Modifier or additive use); USES (Uses)
(nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

IT 192648-01-4P, Mondur 489-STEPANPol PS 2352 copolymer 439592-42-4P, DESMODUR 44V70-STEPANPOL PS 2412 copolymer
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

IT 78-78-4, Isopentane 109-66-0, n-Pentane, uses 287-92-3, Cyclopentane 406-58-6, HFC-365mfc 460-73-1, HFC-245fa 745816-72-2, Hydrosol Pentane 15
RL: TEM (Technical or engineered material use); USES (Uses)
(nonozone depleting blowing agents with trans-1,2-dichloroethylene for improving fire performance of urethane foam)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter ASTM E 1354
- (2) Berrier, R; Polyurethanes Expo '98 1998, P5 CAPLUS
- (3) Bob, J; The Earth Technologies Forum 1999, P273
- (4) Dournel, P; Polyurethanes Expo '2001 2001, P325 CAPLUS
- (5) Francesca, P; Environmental and thermal insulation requirements for polyurethane rigid foams for the professional cold chain industry 2001
- (6) William, D; The Earth Technologies Forum 1998, P270
- (7) Wu, J; Polyurethanes Conference Proceeding 2003, P144

L6 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:757787 CAPLUS

DN 139:278808

ED Entered STN: 26 Sep 2003

TI Compositions of pentafluoropropane

IN Knopeck, Gary M.; Shankland, Ian; Singh, Rajiv R.

PA Honeywell International Inc., USA

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C09K003-30

ICS C09K005-04; C08J009-14; C11D007-50

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2003078539	A1	20030925	WO 2003-US8141	20030314

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
 PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,
 TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2003220343 A1 20030929 AU 2003-220343 20030314
 US 20030234380 A1 20031225 US 2003-389503 20030314
 US 6955769 B2 20051018
 EP 1483352 A1 20041208 EP 2003-716642 20030314
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 JP 2005520884 T 20050714 JP 2003-576535 20030314
 CN 1653155 A 20050810 CN 2003-810912 20030314
 TW 290167 B 20071121 TW 2003-92105626 20030314
 PRAI US 2002-363978P P 20020314
 WO 2003-US8141 W 20030314

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003078539	ICM	C09K003-30
	ICS	C09K005-04; C08J009-14; C11D007-50
	IPCI	C09K0003-30 [ICM, 7]; C09K0005-04 [ICS, 7]; C09K0005-00 [ICS, 7, C*]; C08J0009-14 [ICS, 7]; C08J0009-00 [ICS, 7, C*]; C11D0007-50 [ICS, 7]
	IPCR	C09K0003-00 [I, C*]; C09K0003-00 [I, A]; C09K0003-30 [I, C*]; C09K0003-30 [I, A]; C09K0005-00 [I, C*]; C09K0005-04 [I, A]; C11D0007-22 [N, C*]; C11D0007-28 [N, A]; C11D0007-50 [I, C*]; C11D0007-50 [I, A]
AU 2003220343	ECLA	C09K003/30; C09K005/04B4B; C11D007/50A6; M11D
	IPCI	C09K0003-30 [ICM, 7]; C09K0005-04 [ICS, 7]; C09K0005-00 [ICS, 7, C*]; C08J0009-14 [ICS, 7]; C08J0009-00 [ICS, 7, C*]; C11D0007-50 [ICS, 7]
US 20030234380	IPCI	F25D0001-00 [ICM, 7]; C09K0005-00 [ICS, 7]
	IPCR	C09K0003-30 [I, C*]; C09K0003-30 [I, A]; C09K0005-00 [I, C*]; C09K0005-04 [I, A]; C11D0007-22 [N, C*]; C11D0007-28 [N, A]; C11D0007-50 [I, C*]; C11D0007-50 [I, A]
	NCL	252/067.000; 264/053.000; 570/126.000
	ECLA	C09K003/30; C09K005/04B4B; C11D007/50A6
EP 1483352	IPCI	C09K0003-30 [ICM, 7]; C09K0005-04 [ICS, 7]; C09K0005-00 [ICS, 7, C*]; C08J0009-14 [ICS, 7]; C08J0009-00 [ICS, 7, C*]; C11D0007-50 [ICS, 7]
	IPCR	C09K0003-00 [I, C*]; C09K0003-00 [I, A]; C09K0003-30 [I, C*]; C09K0003-30 [I, A]; C09K0005-00 [I, C*]; C09K0005-04 [I, A]; C11D0007-22 [N, C*]; C11D0007-28 [N, A]; C11D0007-50 [I, C*]; C11D0007-50 [I, A]
JP 2005520884	IPCI	C09K0003-30 [ICM, 7]; C09K0003-00 [ICS, 7]
	IPCR	C09K0003-30 [I, A]; C09K0003-30 [I, C*]; C09K0005-00 [I, C*]; C09K0005-04 [I, A]; C11D0007-22 [N, C*]; C11D0007-28 [N, A]; C11D0007-50 [I, A]; C11D0007-50 [I, C*]
CN 1653155	IPCI	C09K0003-30 [ICM, 7]; C08J0009-14 [ICS, 7]; C08J0009-00 [ICS, 7, C*]; C11D0007-50 [ICS, 7]; C09K0005-04 [ICS, 7]; C09K0005-00 [ICS, 7, C*]
	IPCR	C09K0003-00 [I, C*]; C09K0003-00 [I, A]; C09K0003-30 [I, C*]; C09K0003-30 [I, A]; C09K0005-00 [I, C*]; C09K0005-04 [I, A]; C11D0007-22 [N, C*]; C11D0007-28

TW 290167 IPCI [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]
 C09K0003-30 [I,C]; C09K0003-30 [I,A]; C09K0005-00
 [I,C]; C09K0005-04 [I,A]
 IPCR C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C11D0007-22
 [N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*];
 C11D0007-50 [I,A]
 ECLA C09K003/30; C09K005/04B4B; C11D007/50A6; M11D
 AB Compns. comprising HFC-245fa and trans-1,2-dichloroethylene exhibit
 relatively high solubility with conventional hydrocarbon lubricants,
 non-flammability, and relatively constant b.ps. The compns. are suitable
 for use as chlorofluorocarbon or hydrochlorofluorocarbon replacements,
 especially as propellants.
 ST pentafluoropropane trans dichloroethylene propellant
 IT Propellants (sprays and foams)
 (compns. of pentafluoropropane for use as propellants)
 IT Lubricants
 (hydrocarbon; compns. of pentafluoropropane for use as propellants)
 IT Hydrocarbon oils
 Polysiloxanes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (lubricants; compns. of pentafluoropropane for use as propellants)
 IT 156-60-5, trans-1,2-Dichloroethylene 460-73-1, HFC-245fa
 RL: TEM (Technical or engineered material use); USES (Uses)
 (compns. of pentafluoropropane for use as propellants)
 IT 604807-60-5, Oak 7B1 604807-66-1, Sunisco Gs
 RL: MOA (Modifier or additive use); USES (Uses)
 (lubricants; compns. of pentafluoropropane for use as propellants)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Allied Signal Inc; WO 9935209 A 1999 CAPLUS

(2) Gorton, E; US 5851977 A 1998 CAPLUS

L6 ANSWER 21 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:491307 CAPLUS

DN 139:54031

ED Entered STN: 27 Jun 2003

TI Pentafluoropropane-based compositions with good relatively constant
 boiling point and vapor pressure

IN Hitters, Guillermo J.; Cook, Kane D.; Knopeck, Gary M.; Pham, Hang T.;
 Shankland, Ian; Singh, Rajiv R.

PA Honeywell International Inc., USA

SO PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08J009-14

ICS C09K005-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 48

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2003051968	A2	20030626	WO 2002-US40482	20021217
	WO 2003051968	A3	20040408		
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
	PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,				
	UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				
	KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				

	FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
AU 2002360653	A1 20030630	AU 2002-360653 20021217
US 20030141481	A1 20030731	US 2002-321193 20021217
US 6896823	B2 20050524	
EP 1458796	A2 20040922	EP 2002-795926 20021217
EP 1458796	B1 20080116	
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK	
JP 2005513181	T 20050512	JP 2003-552841 20021217
CN 1617903	A 20050518	CN 2002-827976 20021217
HU 2006000303	A2 20060728	HU 2006-303 20021217
AT 384096	T 20080215	AT 2002-795926 20021217
ES 2299627	T3 20080601	ES 2002-795926 20021217
US 20050205832	A1 20050922	US 2005-77928 20050311
US 7169320	B2 20070130	
PRAI US 2001-342067P	P 20011218	
US 2002-321193	A3 20021217	
WO 2002-US40482	W 20021217	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003051968	ICM	C08J009-14
	ICS	C09K005-04
	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
AU 2002360653	ECLA	C08J009/14P; C09K003/30; C09K005/04B4B
	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
US 20030141481	IPCI	F25D0001-00 [ICM,7]; C09K0005-00 [ICS,7]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
	NCL	252/067.000; 521/050.000
	ECLA	C08J009/14P; C09K003/30; C09K005/04B4B
EP 1458796	IPCI	C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0005-00 [I,C]; C09K0005-04 [I,A]
	IPCR	C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]
	ECLA	C08J009/14P; C09K003/30; C09K005/04B4B
JP 2005513181	IPCI	C09K0003-00 [ICM,7]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]; C08L0075-04 [ICS,7]; C08L0075-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,A]; C09K0003-30 [I,C*]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
	FTERM	4F074/AA78; 4F074/BA45; 4F074/BA53; 4F074/BA73
CN 1617903	IPCI	C08J0009-14 [ICM,7]; C08J0009-00 [ICM,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]
HU 2006000303	IPCI	C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C08J0009-00 [I,C*]; C09K0003-00 [I,C*]; C09K0003-30

[I,C*]; C09K0005-00 [I,C*]; C08J0009-14 [I,A];
 C09K0003-00 [I,A]; C09K0003-30 [I,A]; C09K0005-04 [I,A]
 AT 384096 IPCI C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0005-00
 [I,C]; C09K0005-04 [I,A]
 IPCR C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0003-00
 [I,C*]; C09K0003-00 [I,A]; C09K0003-30 [I,C*];
 C09K0003-30 [I,A]; C09K0005-00 [I,C]; C09K0005-04 [I,A]
 ES 2299627 ECLA C08J009/14P; C09K003/30; C09K005/04B4B
 IPCI C08J0009-00 [I,C]; C08J0009-14 [I,A]; C09K0005-00
 [I,C]; C09K0005-04 [I,A]
 IPCR C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0003-30
 [I,C*]; C09K0003-30 [I,A]
 ECLA C08J009/14P; C09K003/30; C09K005/04B4B
 US 20050205832 IPCI C09K0005-04 [I,A]; C09K0005-00 [I,C*]
 IPCR C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30
 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*];
 C09K0005-04 [I,A]
 NCL 252/067.000; 264/053.000; 521/072.000
 ECLA C08J009/14P; C09K003/30; C09K005/04B4B
 AB The compns. having boiling agent 22° ± 7° at 14.7 psia,
 useful as blowing agents for plastic foams, refrigerants, propellants,
 etc., comprises 1,1,1,3,3-pentafluoropropane, a second component selected
 from decafluoropropane and/or perfluorobutyl Me ether, and a third
 component selected from methanol and/or 1,2-trans-dichloroethylene.
 ST pentafluoropropane azeotrope compn blowing agent foam; decafluoropropane
 perfluorobutyl methyl ether compn refrigerant; methanol dichloroethylene
 pentafluoropropane compn
 IT Hydrocarbons, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (fluoro; pentafluoropropane-based compns. with good relatively constant
 b.p. and vapor pressure for)
 IT Blowing agents
 Propellants (sprays and foams)
 Refrigerants
 (pentafluoropropane-based compns. with good relatively constant b.p. and
 vapor pressure for)
 IT Plastic foams
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pentafluoropropane-based compns. with good relatively constant b.p. and
 vapor pressure for)
 IT 138495-42-8, 1,1,1,2,3,4,4,5,5,5-Decafluoropentane
 RL: TEM (Technical or engineered material use); USES (Uses)
 (HFC 43-10; pentafluoropropane-based compns. with good relatively
 constant b.p. and vapor pressure for)
 IT 163702-07-6, Perfluorobutyl methyl ether
 RL: TEM (Technical or engineered material use); USES (Uses)
 (HFE 449; pentafluoropropane-based compns. with good relatively constant
 b.p. and vapor pressure for)
 IT 67-56-1, Methanol, uses 156-60-5, 1,2-trans-Dichloroethylene
 460-73-1, HFC 245fa
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pentafluoropropane-based compns. with good relatively constant b.p. and
 vapor pressure for)

L6 ANSWER 22 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2002:946394 CAPLUS
 DN 138:24468
 ED Entered STN: 13 Dec 2002
 TI Compositions of hydrofluorocarbons and trans-1,2-dichloroethylene
 IN Bogdan, Mary C.; Knopeck, Gary M.; Pham, Hang T.; Singh, Rajiv R.;
 Williams, David L.
 PA Honeywell International Inc., USA

SO PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C09K005-04
 CC 23-3 (Aliphatic Compounds)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002099006	A1	20021212	WO 2002-US17317	20020603
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002310266	A1	20021216	AU 2002-310266	20020603
	US 20030050356	A1	20030313	US 2002-161414	20020603
	US 6790820	B2	20040914		
	EP 1425363	A1	20040609	EP 2002-737330	20020603
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	US 2001-295050P	P	20010601		
	WO 2002-US17317	W	20020603		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002099006	ICM	C09K005-04
	IPCI	C09K0005-04 [ICM,7]; C09K0005-00 [ICM,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C10M0171-00 [I,C*]; C10M0171-00 [I,A]
	ECLA	C08J009/14H2; C08J009/14H2+L75/04; C08J009/14H2F; C09K003/30; C09K005/04B4B; C10M171/00R; M10M; M10M; M10M; M10M; M10N; M10N; M10N; M10N
AU 2002310266	IPCI	C09K0005-04 [ICM,7]; C09K0005-00 [ICM,7,C*]
US 20030050356	IPCI	C08J0009-00 [ICM,7]; C08K0003-00 [ICS,7]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C10M0171-00 [I,C*]; C10M0171-00 [I,A]
	NCL	521/131.000; 252/067.000; 252/182.110; 510/408.000; 062/114.000; 134/010.000; 134/021.000; 134/022.120; 134/022.140; 134/042.000; 252/182.240; 252/182.270; 510/412.000; 510/415.000; 521/050.000; 521/117.000; 521/170.000
	ECLA	C08J009/14H2+L75/04; C08J009/14H2F; C09K003/30; C09K005/04B4B; C10M171/00R; M10M; M10M; M10M; M10M; M10N; M10N; M10N
EP 1425363	IPCI	C09K0005-04 [ICM,7]; C09K0005-00 [ICM,7,C*]
	IPCR	C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C10M0171-00 [I,C*]; C10M0171-00 [I,A]

AB The present invention provides compns. comprising ranges of an HFC component (a mixture of 1,1,1,3,3-pentafluorobutane and 1,1,1,3,3-pentafluoropropane) and trans-1,2-dichloroethylene having unexpectedly low and relatively constant b.ps. and uses of said compns. as propellants,

foaming agents or.
 ST compn hydrofluorocarbon dichloroethylene propellant foaming agent
 IT Foaming agents
 Propellants (sprays and foams)
 Refrigerants
 (compns. of hydrofluorocarbons and trans-1,2-dichloroethylene)
 IT Hydrocarbons, uses
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
 (fluoro; compns. of hydrofluorocarbons and trans-1,2-dichloroethylene)
 IT Boiling point
 (low and relatively constant; compns. of hydrofluorocarbons and trans-1,2-dichloroethylene)
 IT 156-60-5, trans-1,2-Dichloroethylene 406-58-6,
 1,1,1,3,3-Pentafluorobutane 460-73-1, 1,1,1,3,3-Pentafluoropropane
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
 (compns. of hydrofluorocarbons and trans-1,2-dichloroethylene)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; WO 0238718 A2 2002 CAPLUS
- (2) Kruecke; US 6080799 A 2000 CAPLUS
- (3) Solvay; WO 0036046 2000 CAPLUS

L6 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:368615 CAPLUS

DN 136:371784

ED Entered STN: 18 May 2002

TI Compositions containing pentafluorobutane as solvents or refrigerants

IN Dournel, Pierre

PA Solvay (Societe Anonyme), Belg.

SO PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C11D007-50

ICS C23G005-028; C09K005-04

CC 48-5 (Unit Operations and Processes)

Section cross-reference(s): 42, 45

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002038718	A2	20020516	WO 2001-EP12988	20011107
	WO 2002038718	A3	20030103		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	CA 2427777	A1	20020516	CA 2001-2427777	20011107
	AU 2002027915	A	20020521	AU 2002-27915	20011107
	EP 1341895	A2	20030910	EP 2001-989451	20011107
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
	JP 2004514025	T	20040513	JP 2002-542036	20011107
	CN 1529748	A	20040915	CN 2001-821754	20011107
	AU 2002227915	B2	20070628	AU 2002-227915	20011107

US 20040013610	A1	20040122	US 2003-416062	20030507
PRAI FR 2000-14514	A	20001108		
WO 2001-EP12988	W	20011107		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002038718	ICM	C11D007-50
	ICS	C23G005-028; C09K005-04
	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]
	IPCR	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032 [I,A]
	ECLA	C08G065/00B2F; C08J009/14P; C08L071/02; C09D007/00B; C09K005/04B4B; C11D007/50A6; C11D007/50D2D; C23G005/028B
CA 2427777	IPCI	C11D0007-50 [ICM,7]; C09D0005-00 [ICS,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]
	IPCR	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032 [I,A]
AU 2002027915	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]
	IPCR	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032 [I,A]
EP 1341895	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]; C09D0005-00 [ICS,7]
	IPCR	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032

		[I,A]
JP 2004514025	IPCI	C09D0007-12 [ICM,7]; C09D0201-00 [ICS,7]; C09K0003-00 [ICS,7]; C11D0007-28 [ICS,7]; C11D0007-22 [ICS,7,C*]; C11D0007-50 [ICS,7]; C23G0005-032 [ICS,7]; C23G0005-00 [ICS,7,C*]
	IPCR	C08G0065-00 [I,A]; C08G0065-00 [I,C*]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,A]; C09D0007-00 [I,C*]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,A]; C11D0007-50 [I,C*]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
	FTERM	4H003/DA14; 4H003/DA15; 4H003/DC04; 4H003/ED19; 4H003/FA03; 4H003/FA45; 4H003/FA46; 4J038/CD121; 4J038/CD122; 4J038/CG141; 4J038/CG142; 4J038/DF022; 4J038/DL031; 4J038/DL032; 4J038/EA011; 4J038/EA012; 4J038/JA01; 4J038/JA09; 4J038/JA11; 4J038/JA26; 4J038/KA06; 4J038/MA08; 4K053/PA02; 4K053/QA04; 4K053/RA08; 4K053/RA32; 4K053/RA36; 4K053/RA37; 4K053/RA40; 4K053/RA41; 4K053/RA42; 4K053/RA48; 4K053/RA64; 4K053/YA03
CN 1529748	IPCI	C11D0007-50 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]; C08J0009-14 [ICS,7]; C08J0009-00 [ICS,7,C*]; C09D0005-00 [ICS,7]
	IPCR	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032 [I,A]
	ECLA	C08G065/00B2F; C08J009/14P; C08L071/02; C09D007/00B; C09K005/04B4B; C11D007/50A6; C11D007/50D2D; C23G005/028B
AU 2002227915	IPCI	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032 [I,A]
	ECLA	C08G065/00B2F; C08J009/14P; C08L071/02; C09D007/00B; C09K005/04B4B; C11D007/50A6; C11D007/50D2D; C23G005/028B
US 20040013610	IPCI	A61L0009-04 [ICM,7]; F25D0001-00 [ICS,7]; C09K0005-00 [ICS,7]
	IPCR	C11D0007-22 [I,C*]; C11D0007-28 [I,A]; C08G0065-00 [I,C*]; C08G0065-00 [I,A]; C08J0009-00 [I,C*]; C08J0009-14 [I,A]; C08L0071-00 [I,C*]; C08L0071-02 [I,A]; C09D0007-00 [I,C*]; C09D0007-00 [I,A]; C09D0007-12 [I,C*]; C09D0007-12 [I,A]; C09D0201-00 [I,C*]; C09D0201-00 [I,A]; C09K0003-00 [I,C*]; C09K0003-00 [I,A]; C09K0005-00 [I,C*]; C09K0005-04 [I,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]; C23G0005-032 [I,A]

NCL 424/045.000; 252/067.000
ECLA C08G065/00B2F; C08J009/14P; C08L071/02; C09D007/00B;
C09K005/04B4B; C11D007/50A6; C11D007/50D2D;
C23G005/028B

AB Composition useful as refrigerant, heat-transfer fluid, blowing agent, toner fixing agent, drying solvent or degreasing solvent, comprises at least one hydrofluoroalkane having a b.p. ≥ 10 °C at 101.3 kPa such as 1,1,1,3,3-pentafluorobutane and at least one fluoropolyether having a b.p. ≤ 200 °C at 101.3 kPa such as Galden HT 55.

ST hydrofluoroalkane perfluoropolyether compn blowing agent; pentafluorobutane compn refrigerant heat transfer fluid; toner fixing agent pentafluorobutane compn; drying degreasing solvent pentafluorobutane compn

IT Blowing agents
Coating materials
Heat transfer agents
Refrigerants
(compns. containing pentafluorobutane as solvents or refrigerants)

IT Fluoropolymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(compns. containing pentafluorobutane as solvents or refrigerants)

IT Pigments, nonbiological
(fixing agents; compns. containing pentafluorobutane as solvents or refrigerants)

IT Polyethers, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(perfluoro; compns. containing pentafluorobutane as solvents or refrigerants)

IT Fluoropolymers, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyether-, perfluoro; compns. containing pentafluorobutane as solvents or refrigerants)

IT Degreasing agents
Drying agents
(solvent; compns. containing pentafluorobutane as solvents or refrigerants)

IT 156-60-5, trans-1,2-Dichloroethylene 406-58-6,
1,1,1,3,3-Pentafluorobutane 174127-34-5, Galden HT 70 206010-41-5,
Galden HT 55 423756-05-2, Fomblin PFS 1
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(compns. containing pentafluorobutane as solvents or refrigerants)

IT 460-73-1, 1,1,1,3,3-Pentafluoropropane 138495-42-8,
1,1,1,2,3,4,4,5,5,5-Decafluoropentane
RL: TEM (Technical or engineered material use); USES (Uses)
(compns. containing pentafluorobutane as solvents or refrigerants)

L6 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:210301 CAPLUS
DN 132:238748
ED Entered STN: 31 Mar 2000
TI Non-flammable, high-solvency compositions comprising trans-1,2-dichloroethylene, solvent, and inerting agent
IN Westbrook, Greg A.; Tattersall, Thomas A.; Wolff, Mark C.
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C11D007-50

ICS C11D011-00; C09K003-30
 CC 46-6 (Surface Active Agents and Detergents)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000017301	A1	20000330	WO 1999-US21909	19990921
	W: AU, CA, CN, JP, KR, MX, RU, SG				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6852684	B1	20050208	US 1999-398234	19990917
	AU 2000022526	A	20000410	AU 2000-22526	19990921
	EP 1141215	A1	20011010	EP 1999-969429	19990921
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	US 1998-101182P	P	19980921		
	US 1999-398234	A	19990917		
	WO 1999-US21909	W	19990921		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000017301	ICM	C11D007-50
	ICS	C11D011-00; C09K003-30
	IPCI	C11D0007-50 [ICM,7]; C11D0011-00 [ICS,7]; C09K0003-30 [ICS,7]
	IPCR	C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0003-37 [I,C*]; C11D0003-37 [I,A]; C11D0007-22 [N,C*]; C11D0007-26 [N,A]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	ECLA	C09K003/30; C11D003/37B12; C11D007/50A2; C11D007/50A6; C11D011/00B2D8; M11D; M11D; M11D; M11D; M11D
US 6852684	IPCI	C11D0003-44 [ICM,7]; C11D0003-43 [ICM,7,C*]
	IPCR	C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0003-37 [I,C*]; C11D0003-37 [I,A]; C11D0007-22 [N,C*]; C11D0007-26 [N,A]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]
	NCL	510/410.000; 510/407.000; 510/408.000
	ECLA	C09K003/30; C11D003/37B12; C11D007/50A2; C11D007/50A6; C11D011/00B2D8
EP 1141215	IPCI	C11D0007-50 [ICM,6]; C11D0011-00 [ICS,6]; C09K0003-30 [ICS,6]
	IPCR	C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0003-37 [I,C*]; C11D0003-37 [I,A]; C11D0007-22 [N,C*]; C11D0007-26 [N,A]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C11D0011-00 [I,C*]; C11D0011-00 [I,A]

OS MARPAT 132:238748

AB Disclosed are non-flammable, high-solvency compns. having utility as cleaning agents in the electronics and refrigeration industries, and as a medium for mold release agents. The compns. are non-flammable by Flame Extension Test ASTM D-3065 and Flash Point-Tag Closed Cup Test ASTM D-56-82, and have a Kauri Butanol value of at least about 40 by ASTM 1133-94. The compns. comprise the components: a) trans-1,2-dichloroethylene; and b) solvent selected from: i) oxygen-containing solvents selected from alcs., ketones, esters, siloxanes, and ethers; and ii) hydrocarbon solvents represented by C_tH_{2t}+2 or C_tH_{2t}, wherein t is from 4 to 8; and c) an inerting agent selected from: i) hydrofluorocarbon inerting agents represented by the formula C_xH_yF_(2x+2-y), wherein x is from 3 to 8, yr is from 1 to 4, and the mole ratio of F/H in the hydrofluorocarbon inerting agent is greater than 1.6; ii) hydrofluorocarbon ether inerting agents represented by the formula

CrF_{2r}+10CsH_{2s}+1, wherein r and s are independently selected from 1 to 6, and r is greater than or equal to 2s; and iii) hydrochlorofluorocarbon inerting agents represented by the formulas C₂HCl₂F₃, C₂HClF₄, and C₃HCl₂F₅.

ST trans dichloroethylene mixt nonflammable cleaning solvent
IT Hydrocarbons, uses
RL: NUU (Other use, unclassified); USES (Uses)
(chlorofluorocarbons, solvent; non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT Hydrocarbons, uses
RL: NUU (Other use, unclassified); USES (Uses)
(fluoro, solvent; non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(fluoroalkyl, solvent; non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT Soldering
(fluxes; non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT Cleaning solvents
(non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT Alcohols, uses
Esters, uses
Ethers, uses
Hydrocarbons, uses
Ketones, uses
Siloxanes (nonpolymeric)
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT 1717-00-6, HCFC-141b
RL: NUU (Other use, unclassified); USES (Uses)
(non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT 156-60-5, trans-1,2-Dichloroethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
IT 64-17-5, Ethanol, uses 306-83-2, HCFC-123 354-23-4, HCFC-123a
354-25-6, HCFC-124a 355-37-3 375-17-7 375-61-1, HFC-42-11p
377-36-6, HFC-338pcc 422-44-6 422-48-0 422-56-0, HCFC-225ca
431-31-2, HFC-245eb 431-63-0, HFC-236ea 431-86-7, HCFC-225da
431-89-0, HFC-227ea 460-73-1, HFC-245fa 507-55-1, HCFC-225cb
628-28-4, Butyl methyl ether 628-81-9, Butyl ethyl ether 662-35-1
677-56-5, HFC-236cb 679-86-7, HFC-245ca 680-00-2, HFC-236ca 680-17-1
690-39-1, HFC-236fa 755-23-7 755-45-3, HFC-43-10mf 812-04-4,
HCFC-123b 2252-84-8, HFC-227ca 2837-89-0, HCFC-124 2924-29-0
13474-88-9 24270-66-4, HFC-245ea 35230-11-6 75995-72-1 95576-21-9,
HFC-43-10mcf 95576-22-0 111512-56-2 119450-58-7 128903-21-9,
HCFC-225aa 136013-79-1 136640-02-3 138495-42-8, HFC-43-10mee
150999-42-1 151868-60-9 170444-79-8 170445-02-0
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; non-flammable, high-solvency compns. comprising trans-1,2-dichloroethylene, solvent, and inerting agent)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Ag Technology Kk; JP 09111295 A 1997 CAPLUS
- (2) Du Pont; WO 9728229 A 1997 CAPLUS
- (3) Du Pont; WO 9741189 A 1997 CAPLUS
- (4) Du Pont; WO 9747704 A 1997 CAPLUS

- (5) Eggers, M; US 4961869 A 1990 CAPLUS
- (6) Merchant, A; US 5064560 A 1991 CAPLUS
- (7) Merchant, A; US 5116525 A 1992 CAPLUS
- (8) Merchant, A; US 5250208 A 1993 CAPLUS
- (9) Merchant, A; US 5531916 A 1996 CAPLUS
- (10) Minnesota Mining & Mfg; WO 9837163 A 1998 CAPLUS

L6 ANSWER 25 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1999:451336 CAPLUS
 DN 131:75624
 ED Entered STN: 23 Jul 1999
 TI Compositions of 1,1,1,3,3-pentafluoropropane and chlorinated ethylenes for solvents and cleaning agents
 IN Swan, Ellen L.; Lavery, Dennis M.
 PA Alliedsignal Inc., USA
 SO PCT Int. Appl., 16 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C09K003-30
 ICS C23G005-028
 CC 48-11 (Unit Operations and Processes)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9935209	A1	19990715	WO 1999-US549	19990111
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6100229	A	20000808	US 1998-166800	19981006
	AU 9921119	A	19990726	AU 1999-21119	19990111
	EP 1047745	A1	20001102	EP 1999-901419	19990111
	EP 1047745	B1	20040317		
	R: DE, FR, GB, IT				
	JP 2002500260	T	20020108	JP 2000-527599	19990111
	TW 442561	B	20010623	TW 1999-88100382	19990320
PRAI	US 1998-71128P	P	19980112		
	US 1998-166800	A	19981006		
	WO 1999-US549	W	19990111		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9935209	ICM	C09K003-30
	ICS	C23G005-028
	IPCI	C09K0003-30 [ICM,6]; C23G0005-028 [ICS,6]; C23G0005-00 [ICS,6,C*]
	IPCR	C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028 [I,A]
US 6100229	ECLA	C09K003/30; C11D007/50D2; C23G005/028B; M11D
	IPCI	C11D0007-30 [ICM,7]; C11D0007-22 [ICM,7,C*]; C11D0007-50 [ICS,7]; C23G0005-028 [ICS,7]; C23G0005-00 [ICS,7,C*]; C09K0005-04 [ICS,7]; C09K0005-00 [ICS,7,C*]
	IPCR	C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0007-22 [N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*]; C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028

[I,A]

NCL 510/408.000; 252/067.000; 252/364.000; 510/184.000;
510/273.000; 516/008.000

9921119 ECLA C09K003/30; C11D007/50D2; C23G005/028B
IPCI C09K0003-30 [ICM,6]; C23G0005-028 [ICS,6]; C23G0005-00
[ICS,6,C*]
IPCR C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0007-22
[N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*];
C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028
[I,A]

1047745 IPCI C09K0003-30 [ICM,6]; C23G0005-028 [ICS,6]; C23G0005-00
[ICS,6,C*]
IPCR C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0007-22
[N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*];
C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028
[I,A]

2002500260 IPCI C09K0003-30 [ICM,7]; C23G0005-028 [ICS,7]; C23G0005-00
[ICS,7,C*]
IPCR C09K0003-30 [I,A]; C09K0003-30 [I,C*]; C11D0007-22
[N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,A];
C11D0007-50 [I,C*]; C23G0005-00 [I,C*]; C23G0005-028
[I,A]

442561 IPCI C09K0003-18 [ICM,7]
IPCR C09K0003-30 [I,C*]; C09K0003-30 [I,A]; C11D0007-22
[N,C*]; C11D0007-28 [N,A]; C11D0007-50 [I,C*];
C11D0007-50 [I,A]; C23G0005-00 [I,C*]; C23G0005-028
[I,A]

AB Compns. containing 1,1,1,3,3-pentafluoropropane and chlorinated ethylenes
(trans-1,2-dichloroethylene, trichloroethylene, methylene chloride), especially
azeotrope-like compns., can be used as solvents for aerosols,
refrigeration system flushing, oxygen system cleaning and vapor degreasing
applications. The compns. contain 0.1-20 weight% chlorinated ethylenes and
boil at 14.8-15.2°C ± 0.5°C at 760 mmHg.

ST pentafluoropropane chlorinated ethylene solvent cleaning degreasing;
cleaning solvent pentafluoropropane chlorinated ethylene; degreasing
solvent pentafluoropropane chlorinated ethylene

IT Hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(chloro; pentafluoropropane and chlorinated ethylenes as solvents and
cleaning agents)

IT Hydrocarbons, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoro; pentafluoropropane and chlorinated ethylenes as solvents and
cleaning agents)

IT Cleaning solvents
Solvents
(pentafluoropropane and chlorinated ethylenes as solvents and cleaning
agents)

IT Aerosols
Degreasing
(solvents; pentafluoropropane and chlorinated ethylenes as solvents and
cleaning agents)

IT 74-85-1D, Ethylene, chloro derivs. 75-09-2, uses 79-01-6,
Trichloroethylene, uses 156-60-5, trans-1,2-Dichloroethylene
460-73-1, 1,1,1,3,3-Pentafluoropropane
RL: TEM (Technical or engineered material use); USES (Uses)
(pentafluoropropane and chlorinated ethylenes as solvents and cleaning
agents)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Atochem Elf Sa; DE 4326469 A 1994 CAPLUS
(2) Du Pont; WO 9615206 A 1996 CAPLUS

- (3) Merchant, A; US 5196137 A 1993 CAPLUS
(4) Oestergaard, H; WO 9109077 A 1991 CAPLUS
(5) Pierre, B; US 5478492 A 1995 CAPLUS

L6 ANSWER 26 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:42330 CAPLUS
DN 130:112046
ED Entered STN: 21 Jan 1999
TI Gas chromatographic retention parameters database for refrigerant mixture composition management
AU Bruno, Thomas J.; Bachmeyer, Gregory M.; Wertz, Kelly H.
CS Physical and Chemical Properties Division, Chemical Science and Technology Laboratory, National Institute of Standards and Technology, Boulder, CO, 80303, USA
SO International Journal of Refrigeration (1998), 21(8), 639-647
CODEN: IJRFDI; ISSN: 0140-7007
PB Elsevier Science Ltd.
DT Journal
LA English
CC 48-5 (Unit Operations and Processes)
Section cross-reference(s): 80
AB Composition management of mixed refrigerant systems is a challenging problem in the laboratory, manufacturing facilities, and large refrigeration machinery. The issue of composition management is especially critical for the maintenance of machinery that utilizes zeotropic mixts. as working fluids. These are fluids in which the gas and liquid phases will generally have greatly different comps. While there are many anal. techniques available for laboratory and online analyses, gas chromatog. probably offers the greatest flexibility at the most reasonable cost. This paper describes a chromatog. database that provides for the identification of refrigerant components, and thereby facilitates composition management of zeotropic fluids. Prior to the description of the database a description is given of the basic theory of chromatog. retention parameters and the exptl. techniques used in their measurement.
ST refrigerant mixt gas chromatog retention parameter
IT Databases
Gas chromatography
Mixtures
Refrigerants
(gas chromatog. retention parameters database for refrigerant mixture composition management)
IT 127-18-4, Tetrachloroethene, properties
RL: PRP (Properties)
(R-1110; gas chromatog. retention parameters database for refrigerant mixture composition management)
IT 359-29-5, Ethene, Trichlorofluoro-
RL: PRP (Properties)
(R-1111; gas chromatog. retention parameters database for refrigerant mixture composition management)
IT 79-35-6, 1,1-Dichloro-2,2-difluoroethene
RL: PRP (Properties)
(R-1112a; gas chromatog. retention parameters database for refrigerant mixture composition management)
IT 311-81-9, cis-1,2-Dichloro-1,2-difluoroethene
RL: PRP (Properties)
(R-1112c; gas chromatog. retention parameters database for refrigerant mixture composition management)
IT 381-71-5, trans-1,2-Dichloro-1,2-difluoroethene
RL: PRP (Properties)
(R-1112t; gas chromatog. retention parameters database for refrigerant

mixture composition management)

IT 79-38-9, Chlorotrifluoroethene
 RL: PRP (Properties)
 (R-1113; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 79-01-6, properties
 RL: PRP (Properties)
 (R-1120; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 13245-53-9, cis-1,2-Dichloro-1-fluoroethene
 RL: PRP (Properties)
 (R-1121c; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 13245-54-0, trans-1,2-Dichloro-1-fluoroethene
 RL: PRP (Properties)
 (R-1121t; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 359-10-4, 2-Chloro-1,1-difluoroethene
 RL: PRP (Properties)
 (R-1122; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 359-08-0, Ethene, 2-Bromo-1,1-difluoro-
 RL: PRP (Properties)
 (R-1122B1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 359-11-5, Trifluoroethene
 RL: PRP (Properties)
 (R-1123; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-35-4, 1,1-Dichloroethene, properties
 RL: PRP (Properties)
 (R-1130a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 156-59-2, cis-1,2-Dichloroethene
 RL: PRP (Properties)
 (R-1130c; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 156-60-5, trans-1,2-Dichloroethene
 RL: PRP (Properties)
 (R-1130t; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 2317-91-1, 1-Chloro-1-fluoroethene
 RL: PRP (Properties)
 (R-1131a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-38-7, 1,1-Difluoroethene
 RL: PRP (Properties)
 (R-1132a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 76-13-1, 1,1,2-Trichlorotrifluoroethane
 RL: PRP (Properties)
 (R-113; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-58-5, 1,1,1-Trichlorotrifluoroethane
 RL: PRP (Properties)
 (R-113a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 593-60-2, Bromoethene
 RL: PRP (Properties)
 (R-1140B1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-02-5, Fluoroethene

RL: PRP (Properties)
 (R-1141; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 76-14-2, 1,2-Dichlorotetrafluoroethane
 RL: PRP (Properties)
 (R-114; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-53-0, 1-Bromo-2-chlorotetrafluoroethane
 RL: PRP (Properties)
 (R-114B1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 374-07-2, 1,1-Dichlorotetrafluoroethane
 RL: PRP (Properties)
 (R-114a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 76-15-3
 RL: PRP (Properties)
 (R-115; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-64-3, Iodopentafluoroethane
 RL: PRP (Properties)
 (R-115I-1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 76-16-4, Hexafluoroethane
 RL: PRP (Properties)
 (R-116; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-69-4, Trichlorofluoromethane
 RL: PRP (Properties)
 (R-11; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-14-3, 1,1,2,2-Tetrachloro-1-fluoroethane
 RL: PRP (Properties)
 (R-121; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-21-2, 1,2,2-Trichloro-1,1-difluoroethane
 RL: PRP (Properties)
 (R-122; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 306-83-2, 2,2-Dichloro-1,1,1-trifluoroethane
 RL: PRP (Properties)
 (R-123; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 151-67-7
 RL: PRP (Properties)
 (R-123B1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-23-4, 1,2-Dichloro-1,1,2-trifluoroethane
 RL: PRP (Properties)
 (R-123a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 677-21-4, 3,3,3-Trifluoropropene
 RL: PRP (Properties)
 (R-1243b; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 2837-89-0, 2-Chloro-1,1,1,2-tetrafluoroethane
 RL: PRP (Properties)
 (R-124; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 354-33-6, Pentafluoroethane
 RL: PRP (Properties)
 (R-125; gas chromatog. retention parameters database for refrigerant mixture composition management)

mixture composition management)

IT 75-71-8, Dichlorodifluoromethane
 RL: PRP (Properties)
 (R-12; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 359-28-4, 1,1,2-Trichloro-2-fluoroethane
 RL: PRP (Properties)
 (R-131; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 811-95-0, 1,1,2-Trichloro-1-fluoroethane
 RL: PRP (Properties)
 (R-131a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 1649-08-7, 1,2-Dichloro-1,1-difluoroethane
 RL: PRP (Properties)
 (R-132b; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-88-7, 2-Chloro-1,1,1-trifluoroethane
 RL: PRP (Properties)
 (R-133a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 359-35-3, 1,1,2,2-Tetrafluoroethane
 RL: PRP (Properties)
 (R-134; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 811-97-2, 1,1,1,2-Tetrafluoroethane
 RL: PRP (Properties)
 (R-134a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-72-9, Chlorotrifluoromethane
 RL: PRP (Properties)
 (R-13; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 2314-97-8, Iodotrifluoromethane
 RL: PRP (Properties)
 (R-13I,1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 430-57-9, 1,2-Dichloro-1-fluoroethane
 RL: PRP (Properties)
 (R-141; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 1717-00-6, 1,1-Dichloro-1-fluoroethane
 RL: PRP (Properties)
 (R-141b; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-68-3, 1-Chloro-1,1-difluoroethane
 RL: PRP (Properties)
 (R-142b; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 430-66-0, 1,1,2-Trifluoroethane
 RL: PRP (Properties)
 (R-143; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 420-46-2, 1,1,1-Trifluoroethane
 RL: PRP (Properties)
 (R-143a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 29759-38-4, Tetrafluoroethane
 RL: PRP (Properties)
 (R-14; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 624-72-6, 1,2-Difluoroethane

RL: PRP (Properties)
 (R-152; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-37-6, 1,1-Difluoroethane
 RL: PRP (Properties)
 (R-152a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-00-3
 RL: PRP (Properties)
 (R-160; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 353-36-6, Fluoroethane
 RL: PRP (Properties)
 (R-161; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 1599-41-3, 1,2,2-Trichloropentafluoropropane
 RL: PRP (Properties)
 (R-215aa; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 76-17-5, 1,2,3-Trichloropentafluoropropane
 RL: PRP (Properties)
 (R-215ba; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 661-97-2, 1,2-Dichlorohexafluoropropane
 RL: PRP (Properties)
 (R-216ba; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 754-34-7, 1-Iodoheptafluoropropane
 RL: PRP (Properties)
 (R-217I-1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 76-18-6, 2-Chloroheptafluoropropane
 RL: PRP (Properties)
 (R-217ba; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 422-85-5, 1-Bromo-heptafluoropropane
 RL: PRP (Properties)
 (R-217caB1; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-43-4, Dichlorofluoromethane
 RL: PRP (Properties)
 (R-21; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 422-56-0, 3,3-Dichloro-1,1,1,2,2-pentafluoropropane
 RL: PRP (Properties)
 (R-225ca; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 507-55-1, 1,3-Dichloro-1,1,2,2,3-pentafluoropropane
 RL: PRP (Properties)
 (R-225cb; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 431-63-0, 1,1,1,2,3,3-Hexafluoropropane
 RL: PRP (Properties)
 (R-226ea; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 2252-84-8, 1,1,1,2,2,3,3-Heptafluoropropane
 RL: PRP (Properties)
 (R-227ca; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 431-89-0, 1,1,1,2,3,3,3-Heptafluoropropane
 RL: PRP (Properties)
 (R-227ea; gas chromatog. retention parameters database for refrigerant mixture composition management)

mixture composition management)

IT 75-45-6, Chlorodifluoromethane
 RL: PRP (Properties)
 (R-22; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 690-39-1, 1,1,1,3,3,3-Hexafluoropropane
 RL: PRP (Properties)
 (R-236fa; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-46-7, Trifluoromethane
 RL: PRP (Properties)
 (R-23; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 338-75-0, 2,3-Dichloro-1,1,1-trifluoropropane
 RL: PRP (Properties)
 (R-243db; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 24270-66-4, 1,1,2,3,3-Pentafluoropropane
 RL: PRP (Properties)
 (R-245ca; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 1814-88-6, 1,1,1,2,2-Pentafluoropropane
 RL: PRP (Properties)
 (R-245cb; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 460-73-1, 1,1,1,3,3-Pentafluoropropane
 RL: PRP (Properties)
 (R-245fa; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 460-35-5, 3-Chloro-1,1,1-trifluoropropane
 RL: PRP (Properties)
 (R-253fb; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 40723-63-5, 1,1,2,2-Tetrafluoropropane
 RL: PRP (Properties)
 (R-254cb; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 102738-79-4, Propane, 2-Chloro-1,3-difluoro-
 RL: PRP (Properties)
 (R-262da; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 421-07-8, 1,1,1-Trifluoropropane
 RL: PRP (Properties)
 (R-263fb; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 594-20-7, 2,2-Dichloropropane
 RL: PRP (Properties)
 (R-270aa; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 78-87-5, 1,2-Dichloropropane
 RL: PRP (Properties)
 (R-270da; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 142-28-9, 1,3-Dichloropropane
 RL: PRP (Properties)
 (R-270fa; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 78-99-9, 1,1-Dichloropropane
 RL: PRP (Properties)
 (R-270fb; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-29-6, 2-Chloropropane

RL: PRP (Properties)
(R-280da; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 75-10-5, Difluoromethane
RL: PRP (Properties)
(R-32; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 74-87-3, Chloromethane, properties
RL: PRP (Properties)
(R-40; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 593-53-3, Fluoromethane
RL: PRP (Properties)
(R-41; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 425-82-1, Oxetane, Hexafluoro-
RL: PRP (Properties)
(R-CE 216; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 3822-68-2, Pentafluorodimethyl ether
RL: PRP (Properties)
(R-E 125; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 1691-17-4, Bis(difluoromethyl)ether
RL: PRP (Properties)
(R-E 134; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 460-43-5, Ethane, 1,1,1-trifluoro-2-methoxy-
RL: PRP (Properties)
(R-E 143a; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 13838-16-9, 2-Chloro-1,1,2-trifluoroethyl difluoromethyl ether
RL: PRP (Properties)
(R-E 235ca2; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 26675-46-7, 1-Chloro-2,2,2-trifluoroethyl difluoromethyl ether
RL: PRP (Properties)
(R-E 235dal; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 57041-67-5, Difluoromethyl 1,2,2,2-Tetrafluoroethyl ether
RL: PRP (Properties)
(R-E 236eal; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 1885-48-9, 2-(Difluoromethoxy)-1,1,1-trifluoroethane
RL: PRP (Properties)
(R-E 24fal; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 627-42-9, 2-Chloroethyl methyl ether
RL: PRP (Properties)
(R-E 280; gas chromatog. retention parameters database for refrigerant mixture composition management)

IT 28523-86-6, Fluoromethyl-2,2,2-trifluoro-1-(trifluoromethyl)ethyl ether
RL: PRP (Properties)
(R-E 347; gas chromatog. retention parameters database for refrigerant mixture composition management)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Bruno, T; ASHRAE Transactions 1992, V98(2), P210
- (2) Bruno, T; Anal Chem 1996, V68(8), P1347 CAPLUS
- (3) Bruno, T; CRC Handbook for the Identification and Analysis of Alternative Refrigerants 1995
- (4) Bruno, T; Chromatographic and Electrophoretic Methods 1991

- (5) Bruno, T; J Chromatogr 1994, VA679, P123
- (6) Bruno, T; J Chromatogr 1994, VA672, P149
- (7) Bruno, T; J Chromatogr 1994, VA686, P245
- (8) Bruno, T; J Chromatogr 1995, VA708, P293
- (9) Bruno, T; J Chromatogr 1996, VA736, P175
- (10) Bruno, T; J Chromatogr 1996, VA723, P325
- (11) Budahegyi, M; J Chromatogr 1983, V271, P213 CAPLUS
- (12) Ettre, L; Anal Chem 1964, V36(8), P31A
- (13) Ettre, L; Chromatographia 1973, V6(11), P489 CAPLUS
- (14) Ettre, L; J Chromatogr 1967, V30, P1 CAPLUS
- (15) Evans, M; J Chromatogr 1989, V472, P93 CAPLUS
- (16) Grob, R; Modern Practice of Gas Chromatography 3rd ed 1995
- (17) Haken, J; Adv Chromatogr 1976, V8, P367
- (18) Kovats, E; Helv Chim Acta 1968, V41, P1915
- (19) Sprouse, J; Am Lab 1984, P54 CAPLUS
- (20) Takacs, J; J Chromatogr Sci 1991, V29(9), P382 CAPLUS
- (21) Vernon, F; Chromatographia 1983, V17(11), P597 CAPLUS

L6 ANSWER 27 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1997:240623 CAPLUS

DN 126:226762

OREF 126:43831a,43834a

ED Entered STN: 14 Apr 1997

TI Production of halogenated alkane by reaction of haloalkane with
halogenated olefin and selected hydrochlorofluorocarbon compounds and
azeotropes with HF

IN Baker, Ralph Thomas; Miller, Ralph Newton; Petrov, Viacheslave
Alexandrovich; Rao, Velliyur Nott Mallikarjuna; Sievert, Allen Capron

PA E. I. Du Pont de Nemours & Co., USA

SO PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07C017-278

ICS C07C017-275; C07C019-08; C07C019-10; C07C017-383; C07C017-20

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

Section cross-reference(s): 23

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9705089	A1	19970213	WO 1996-US12547	19960731
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG				
	BR 9609924	A	19990608	BR 1996-9924	19960130
	CA 2228287	A1	19970213	CA 1996-2228287	19960731
	CA 2228287	C	20080610		
	AU 9666436	A	19970226	AU 1996-66436	19960731
	CN 1196716	A	19981021	CN 1996-197055	19960731
	CN 1082039	C	20020403		
	EP 876314	A1	19981111	EP 1996-926206	19960731
	EP 876314	B1	20030226		
	R: DE, ES, FR, GB, IT, NL				
	ES 2190474	T3	20030801	ES 1996-926206	19960731
	TW 421643	B	20010211	TW 1996-85110736	19960903
	US 6291730	B1	20010918	US 1998-11401	19980128
	US 6755942	B1	20040629	US 2000-638549	20000814
	US 20030208090	A1	20031106	US 2003-460270	20030612
	US 6858762	B2	20050222		

	US 20050080302	A1	20050414	US 2004-956672	20041001
	US 7241928	B2	20070710		
	US 20080108852	A1	20080508	US 2007-809485	20070531
PRAI	US 1995-1702P	P	19950801		
	US 1996-14810P	P	19960404		
	US 1996-19994P	P	19960618		
	WO 1996-US12547	W	19960731		
	US 1998-11401	A3	19980128		
	US 2000-638549	A3	20000814		
	US 2003-460270	A3	20030612		
	US 2004-956672	A3	20041001		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9705089	ICM	C07C017-278
	ICS	C07C017-275; C07C019-08; C07C019-10; C07C017-383; C07C017-20
	IPCI	C07C0017-278 [ICM,6]; C07C0017-275 [ICS,6]; C07C0019-08 [ICS,6]; C07C0019-10 [ICS,6]; C07C0019-00 [ICS,6,C*]; C07C0017-383 [ICS,6]; C07C0017-20 [ICS,6]; C07C0017-00 [ICS,6,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
	ECLA	C07C017/20D4; C07C017/20D4+19/08; C07C017/20D4+19/10; C07C017/275; C07C017/275+19/01; C07C017/275+19/10; C07C017/278; C07C017/278+19/10; C07C017/278+19/16; C07C017/38; C07C017/386+19/10; C07C019/08; C07C019/10
BR 9609924	IPCI	C07C0017-278 [ICM]; C07C0017-275 [ICS]; C07C0019-08 [ICS]; C07C0019-10 [ICS]; C07C0019-00 [ICS,C*]; C07C0017-383 [ICS]; C07C0017-20 [ICS]; C07C0017-00 [ICS,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
CA 2228287	IPCI	C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-383 [I,A]; C07C0017-386 [I,A]; C07C0017-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]; C07C0019-00 [I,C*]; C07C0022-08 [I,A]; C07C0022-00 [I,C*]; C07C0067-347 [I,A]; C07C0067-00 [I,C*]; C07C0069-63 [I,A]; C07C0069-00 [I,C*]; C07C0253-30 [I,A]; C07C0253-00 [I,C*]; C07C0255-10 [I,A]; C07C0255-00 [I,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
AU 9666436	IPCI	C07C0017-278 [ICM,6]; C07C0017-275 [ICS,6]; C07C0019-08 [ICS,6]; C07C0019-10 [ICS,6]; C07C0019-00 [ICS,6,C*]; C07C0017-383 [ICS,6]; C07C0017-20 [ICS,6]; C07C0017-00 [ICS,6,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
CN 1196716	IPCI	C07C0017-278 [ICM,6]; C07C0017-275 [ICS,6]; C07C0019-08 [ICS,6]; C07C0019-10 [ICS,6]; C07C0019-00 [ICS,6,C*]; C07C0017-383 [ICS,6]; C07C0017-20 [ICS,6]; C07C0017-00 [ICS,6,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275

		[I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
EP 876314	IPCI	C07C0017-278 [ICM,6]; C07C0017-275 [ICS,6]; C07C0019-08 [ICS,6]; C07C0019-10 [ICS,6]; C07C0019-00 [ICS,6,C*]; C07C0017-383 [ICS,6]; C07C0017-20 [ICS,6]; C07C0017-00 [ICS,6,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
ES 2190474	IPCI	C07C0017-278 [ICM,4]; C07C0017-275 [ICS,4]; C07C0019-08 [ICS,7]; C07C0019-10 [ICS,4]; C07C0019-00 [ICS,4,C*]; C07C0017-383 [ICS,4]; C07C0017-20 [ICS,7]; C07C0017-00 [ICS,7,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
TW 421643	IPCI	C07C0017-266 [ICM,7]; C07C0017-00 [ICM,7,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
US 6291730	IPCI	C07C0017-10 [ICM,7]; C07C0017-00 [ICM,7,C*]; C07C0069-63 [ICS,7]; C07C0069-00 [ICS,7,C*]; C07C0255-00 [ICS,7]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-10 [I,A]
	NCL	570/176.000; 558/357.000; 558/378.000; 560/226.000; 560/227.000; 570/164.000; 570/172.000; 570/257.000
	ECLA	C07C017/20D4+19/08; C07C017/20D4+19/10; C07C017/275; C07C017/275+19/01; C07C017/275+19/10; C07C017/278; C07C017/278+19/10; C07C017/278+19/16; C07C017/386+19/10; C07C019/10
US 6755942	IPCI	B01D0003-34 [ICM,7]; C07C0017-08 [ICS,7]; C07C0017-00 [ICS,7,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-10 [I,A]
	NCL	203/067.000; 570/134.000; 570/164.000; 570/165.000; 570/166.000; 570/167.000; 570/168.000; 570/169.000
	ECLA	C07C017/20D4+19/08; C07C017/20D4+19/10; C07C017/275+19/01; C07C017/275+19/10; C07C017/278+19/01; C07C017/278+19/10; C07C017/278+19/16; C07C017/386+19/10; C07C019/10
US 20030208090	IPCI	C07C0253-30 [ICM,7]; C07C0253-00 [ICM,7,C*]; C07C0019-08 [ICS,7]; C07C0019-00 [ICS,7,C*]
	IPCR	C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A]; C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08 [I,A]; C07C0019-10 [I,A]
	NCL	558/461.000; 560/227.000; 570/175.000; 570/165.000; 252/182.110; 252/182.120; 252/182.320; 252/183.130; 570/134.000; 570/164.000; 570/166.000; 570/167.000; 570/168.000; 570/169.000
	ECLA	C07C017/20D4; C07C017/20D4+19/08; C07C017/20D4+19/10; C07C017/275; C07C017/275+19/01; C07C017/275+19/10; C07C017/278; C07C017/278+19/10; C07C017/278+19/16; C07C017/38; C07C017/386+19/10; C07C019/08; C07C019/10
US 20050080302	IPCI	C07C0019-10 [I,A]; C07C0019-01 [I,A]; C07C0019-08

[I,A]; C07C0019-00 [I,C*]
 IPCR C07C0017-00 [I,C*]; C07C0017-20 [I,A]; C07C0017-275
 [I,A]; C07C0017-278 [I,A]; C07C0017-38 [I,A];
 C07C0017-386 [I,A]; C07C0019-00 [I,C*]; C07C0019-08
 [I,A]; C07C0019-10 [I,A]
 NCL 570/172.000; 570/135.000; 203/002.000; 203/003.000;
 203/050.000; 203/067.000; 203/074.000; 203/077.000;
 203/080.000; 252/067.000; 510/408.000; 570/156.000;
 570/166.000; 570/167.000; 570/169.000; 570/178.000
 ECLA C07C017/20D4; C07C017/20D4+19/08; C07C017/20D4+19/10;
 C07C017/275; C07C017/275+19/01; C07C017/275+19/10;
 C07C017/278; C07C017/278+19/01; C07C017/278+19/10;
 C07C017/278+19/16; C07C017/38; C07C017/386+19/10;
 C07C019/08; C07C019/10
 US 20080108852 IPCI C07C0017-383 [I,A]; C07C0017-00 [I,C*]; C07C0019-08
 [I,A]; C07C0019-00 [I,C*]
 NCL 570/134.000; 570/178.000
 OS MARPAT 126:226762
 AB A liquid phase process is disclosed for producing halogenated alkane adducts
 CAR1R2CBR3R4 (A = hydrocarbaryl; B = halo other than F; R1-4 = H, Br, Cl, F,
 alkyl, CN, COMe, CHCl, aryl) by contacting a corresponding halogenated
 alkane, AB, with a corresponding olefin, CR1R2:CR3R4, in a dinitrile or
 cyclic carbonate ester solvent which divides the reaction mixture into 2
 liquid phases and in the presence of a catalyst system containing (i) ≥1
 catalyst selected from monovalent and divalent Cu, and (ii) a promoter
 selected from aromatic or aliphatic heterocyclic compds. which contain 1 C-N
 double bond in the heterocyclic ring. When hydrochlorofluorocarbons are
 formed, the Cl content may be reduced by reacting the
 hydrochlorofluorocarbons with HF. New halogenated alkane compds. include
 CF3CF2CCl2CH2CCl13, CF3CCl2CH2CH2Cl and CF3CCl2CH2CHClF and these compds.
 are useful as intermediates for producing hydrofluorocarbons. Azeotropes
 of CClF2CH2CF3 with HF and azeotropes of CF3CH2CHF2 with HF and a
 processes for producing such azeotropes is described. A process for
 purification of certain hydrofluorocarbons and/or their chloroprecursors from
 mixts. of such compds. with HF is described. Thus CCl addition reaction with
 vinylidene chloride at 117-120°/508 kPa maximum for 0.9 h in the
 presence of CuCl2 and 2-ethyl-oxazoline and adiponitrile solvent gave
 mostly 1,1,1,3,3,3-hexachloropropane.
 ST vinylidene chloride reaction carbon tetrachloride; hexachloropropane manuf
 haloalkane addn dinitrile solvent; carbonate ester solvent haloalkane addn
 olefin; ethyloxazoline copper addn catalyst haloalkane olefin
 IT Hydrocarbons, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (fluoro; production of halogenated alkane by reaction of haloalkane with
 halogenated olefin in select solvent, selected hydrochlorofluorocarbon
 compds. and azeotropes with HF)
 IT Hydrocarbons, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (halo; production of halogenated alkane by reaction of haloalkane with
 halogenated olefin in select solvent, selected hydrochlorofluorocarbon
 compds. and azeotropes with HF)
 IT Azeotropes
 Solvents
 (production of halogenated alkane by reaction of haloalkane with
 halogenated olefin in select solvent, selected hydrochlorofluorocarbon
 compds. and azeotropes with HF)
 IT 460-73-1P, 1,1,1,,3,3-Pentafluoropropane
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (hydrofluorination of pentachloropropane; production of halogenated alkane
 by reaction of haloalkane with halogenated olefin in select solvent,
 selected hydrochlorofluorocarbon compds. and azeotropes with HF)
 IT 142-71-2, Copper II acetate 7447-39-4, Copper chloride (CuCl2), uses

7681-65-4, Copper I iodide 7758-89-6, Copper chloride (CuCl)
7758-98-7, Copper II sulfate, uses 7787-70-4, Copper I bromide
7789-45-9, Copper II bromide 10431-98-8
RL: CAT (Catalyst use); USES (Uses)

(production of halogenated alkane by reaction of haloalkane with
halogenated olefin in select solvent, selected hydrochlorofluorocarbon
comps. and azeotropes with HF)

IT 755-46-4P 1070-78-6P, 1,1,1,3-Tetrachloropropane 5406-70-2P,
1,1,1,2,3,3-Hexachloropropane 21260-43-5P 23153-22-2P,
1,1,1,3-Tetrachloro-3-fluoropropane 79942-56-6P, 1,1,1,3,3-Pentachloro-
4,4,4-trifluorobutane 175401-04-4P 188253-28-3P 188253-29-4P

RL: IMF (Industrial manufacture); PREP (Preparation)
(production of halogenated alkane by reaction of haloalkane with
halogenated olefin in select solvent, selected hydrochlorofluorocarbon
comps. and azeotropes with HF)

IT 3607-78-1P, 1,1,1,3,3,3-Hexachloropropane 23153-23-3P,
1,1,1,3,3-Pentachloropropane

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(production of halogenated alkane by reaction of haloalkane with
halogenated olefin in select solvent, selected hydrochlorofluorocarbon
comps. and azeotropes with HF)

IT 460-92-4 690-39-1, 1,1,1,3,3,3-Hexafluoropropane

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(production of halogenated alkane by reaction of haloalkane with
halogenated olefin in select solvent, selected hydrochlorofluorocarbon
comps. and azeotropes with HF)

IT 56-23-5, reactions 74-85-1, Ethene, reactions 75-01-4, reactions
75-02-5, Vinyl fluoride 75-35-4, Vinylidene chloride, reactions
75-38-7 156-60-5, trans-1,2-Dichloroethylene 354-58-5,
1,1,1-Trichlorotrifluoroethane 754-34-7, 1-Iodoheptafluoropropane
4259-43-2, 1,1,1-Trichloropentafluoropropane

RL: RCT (Reactant); RACT (Reactant or reagent)
(production of halogenated alkane by reaction of haloalkane with
halogenated olefin in select solvent, selected hydrochlorofluorocarbon
comps. and azeotropes with HF)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 109-77-3,
Malononitrile 110-61-2, Succinonitrile 111-69-3, Adiponitrile
544-13-8, Glutaronitrile 629-40-3, Suberonitrile 646-20-8,
Pimelonitrile 4389-22-4 4437-85-8, Butylene carbonate 17611-82-4,
Ethyl succinonitrile 28906-50-5, Methyl glutaronitrile

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; production of halogenated alkane by reaction of haloalkane with
halogenated olefin in select solvent, selected hydrochlorofluorocarbon
comps. and azeotropes with HF)

L6 ANSWER 28 OF 28 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1996:148274 CAPLUS

DN 124:249231

OREF 124:45819a,45822a

ED Entered STN: 14 Mar 1996

TI Kovats Retention Indexes of Halocarbons on a Hexafluoropropylene
Epoxide-Modified Graphitized Carbon Black

AU Bruno, Thomas J.; Wertz, Kelly H.; Caciari, Michael

CS Thermophysics Division, National Institute of Standards and Technology,
Boulder, CO, 80303, USA

SO Analytical Chemistry (1996), 68(8), 1347-59

CODEN: ANCHAM; ISSN: 0003-2700

PB American Chemical Society

DT Journal

LA English

CC 80-6 (Organic Analytical Chemistry)

Section cross-reference(s): 45

- AB Kovats retention indexes of 97 halocarbons related to research on alternative refrigerants, propellants, foaming agents, and blowing agents were measured on a packed column stationary phase consisting of a 5% (mass/mass) coating of a low mol. weight polymer of hexafluoropropylene epoxide on graphitized carbon black. The measurements on each fluid were made at four temps., and the thermal dependence of the indexes was modeled with appropriate equations. The modeled values are suitable for the identification of these compds. by gas chromatog. on both laboratory and field instrumentation. The values are also useful for the optimization of more sophisticated analyses needed in specific situations. The stationary phase chosen will provide separation of nearly all the fluids of interest. Also, there is sufficient spread in the retention index values to facilitate fluid identification. The measurements also appear to fit a qual. triangular property diagram that was useful for classifying alternative refrigerant fluids and related compds.
- ST Kovats retention index halocarbon gas chromatog; graphitized carbon black hexafluoropropylene epoxide halocarbon
- IT Graphitized carbon black
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(Kovats retention indexes of halocarbons on hexafluoropropylene epoxide-modified graphitized carbon black)
- IT Molecular structure-property relationship
(gas chromatog., Kovats retention indexes of halocarbons on hexafluoropropylene epoxide-modified graphitized carbon black)
- IT Hydrocarbons, analysis
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(halo, Kovats retention indexes of halocarbons on hexafluoropropylene epoxide-modified graphitized carbon black)
- IT Chromatography, gas
(stationary phases, Kovats retention indexes of halocarbons on hexafluoropropylene epoxide-modified graphitized carbon black)
- IT 428-59-1, Hexafluoropropylene epoxide
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(Kovats retention indexes of halocarbons on hexafluoropropylene epoxide-modified graphitized carbon black)
- IT 74-87-3, R-40, analysis 75-00-3, R 160 75-02-5, R-1141 75-10-5, R-32 75-29-6, R-280Da 75-35-4, R-1130a, analysis 75-37-6, R-152a 75-38-7 75-43-4, R-21 75-45-6, R-22 75-46-7, R-23 75-68-3, R-142b 75-69-4, R-11 75-71-8, R-12 75-72-9, R-13 75-73-0, R-14 75-88-7, R-133a 76-13-1, R-113 76-14-2, R-114 76-15-3, R-115 76-16-4, R-116 76-17-5, R-215Ba 76-18-6, R-217Ba 78-87-5, R-270Da 78-99-9, R-270Fb 79-01-6, analysis 79-35-6, R-1112a 79-38-9 127-18-4, Tetrachloroethene, analysis 142-28-9, R-270Fa 151-67-7 156-59-2, cis-1,2-Dichloroethene 156-60-5, trans-1,2-Dichloroethene 306-83-2, R-123 311-81-9, R-1112c 338-75-0, R-243Db 353-36-6, R-161 354-14-3, R-121 354-21-2, R-122 354-23-4, R-123a 354-33-6, R-125 354-53-0, R 114B1 354-58-5, 1,1,1-Trichlorotrifluoroethane 354-64-3 359-08-0, R-1122B1 359-10-4, R-1122 359-11-5, R-1123 359-28-4 359-29-5 359-35-3, R-134 374-07-2, R 114a 381-71-5, R-1112t 420-46-2, R-143a 421-07-8, R-263Fb 422-56-0, R-225Ca 422-85-5, R-217CaB1 425-82-1 430-57-9, R-141 430-66-0, R-143 431-63-0, R-236Ea 431-89-0, R-227Ea 460-35-5, 3-Chloro-1,1,1-trifluoropropane 460-43-5 460-73-1, R-245Fa 507-55-1, R-225Cb 593-53-3, Fluoromethane 593-60-2, R-1140B1 594-20-7, R-270Aa 624-72-6, 1,2-Difluoroethane 627-42-9, 2-Chloroethyl methyl ether 661-97-2, R-216Ba 677-21-4 679-86-7, R-245Ca 690-39-1, R-236Fa 754-34-7, 1-Iodoheptafluoropropane 811-95-0, 1,1,2-Trichloro-1-fluoroethane 811-97-2, R-134a 1599-41-3, R-215Aa 1649-08-7, R-132b 1691-17-4 1717-00-6, R-141b 1814-88-6, R-245Cb 1885-48-9, 2-(Difluoromethoxy)-1,1,1-trifluoroethane 2252-84-8, R-227Ca 2314-97-8 2317-91-1, R-1131a 2837-89-0, R-124 3822-68-2 13245-53-9,

cis-1,2-Dichloro-1-fluoroethene 13245-54-0, trans-1,2-Dichloro-1-fluoroethene 13838-16-9, 2-Chloro-1,1,2-trifluoroethyl difluoromethyl ether 26675-46-7, 1-Chloro-2,2,2-trifluoroethyl difluoromethyl ether 40723-63-5, R-254Cb 55605-86-2 57041-67-5 102738-79-4, R-262Da
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(halocarbons determination by gas chromatog. on hexafluoropropylene epoxide-modified graphitized carbon black stationary phase and Kovats retention indexes)

=>

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	134.81	144.72
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-24.80	-25.60

FILE 'REGISTRY' ENTERED AT 16:16:44 ON 03 SEP 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 2 SEP 2008 HIGHEST RN 1045894-64-1
DICTIONARY FILE UPDATES: 2 SEP 2008 HIGHEST RN 1045894-64-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> s 156-60-6/rn or 460-73-1/rn

0 156-60-6/RN

1 460-73-1/RN

L9 1 156-60-6/RN OR 460-73-1/RN

=> s 156-60-5/rn

L10 1 156-60-5/RN

=> d l9;d l10

L9 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2008 ACS on STN
RN 460-73-1 REGISTRY
ED Entered STN: 16 Nov 1984
CN Propane, 1,1,1,3,3-pentafluoro- (CA INDEX NAME)
OTHER NAMES:
CN 1,1,1,3,3-Pentafluoropropane
CN Enovate 3000

CN F 245fa
 CN Genetron 245fa
 CN HFA 245fa
 CN HFC 245A
 CN HFC 245fa
 CN R 245a
 CN R 245fa
 DR 220035-33-6
 MF C3 H3 F5
 CI COM
 LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
 CHEMLIST, CIN, CSCHEM, DETHERM*, GMELIN*, PIRA, PROMT, RTECS*,
 TOXCENTER, USPAT2, USPATFULL, USPATOLD
 (*File contains numerically searchable property data)
 Other Sources: TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

F₃C—CH₂—CHF₂

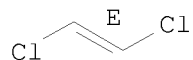
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

874 REFERENCES IN FILE CA (1907 TO DATE)
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 880 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L10 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2008 ACS on STN
 RN 156-60-5 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Ethene, 1,2-dichloro-, (1E)- (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Ethene, 1,2-dichloro-, (E)-
 CN Ethylene, 1,2-dichloro-, (E)- (8CI)
 CN Ethylene, 1,2-dichloro-, trans- (5CI)
 OTHER NAMES:
 CN (E)-1,2-Dichloroethene
 CN (E)-1,2-Dichloroethylene
 CN 1,2-trans-Dichloroethene
 CN 1,2-trans-Dichloroethylene
 CN HCC 1130t
 CN NSC 60512
 CN R 1130t
 CN trans-1,2-Dichloroethene
 CN trans-1,2-Dichloroethylene
 CN Vertrel CCA
 FS STEREOSEARCH
 DR 43695-79-0
 MF C2 H2 Cl2
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, CA, CAOLD,
 CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN,
 CSCHEM, CSNB, DETHERM*, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE,
 MRCK*, MSDS-OHS, PROMT, RTECS*, SCISEARCH, SPECINFO, TOXCENTER, ULIDAT,
 USPAT2, USPATFULL, USPATOLD
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3165 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3172 REFERENCES IN FILE CAPLUS (1907 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> logoff y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

5.38

150.10

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-25.60

STN INTERNATIONAL LOGOFF AT 16:18:28 ON 03 SEP 2008